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BUILDING THE CASE FOR A PRISON MASS-CASUALTY PLANNING FRAMEWORK

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BUILDING THE CASE FOR A PRISON MASS-CASUALTY PLANNING FRAMEWORK

by

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September 2019

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The corrections enterprise is wholly unprepared for mass casualty incidents (MCI). Prisons regularly experience incidents involving inmate violence; these events can quickly escalate into an MCI that overwhelms the prison's ability to respond and overload local medical systems. Despite numerous prison-related disasters, the corrections enterprise remains disengaged from national emergency preparedness efforts. Further complicating the issue is the lack of corrections-specific emergency management doctrine to guide prison emergency planners toward achieving national preparedness goals. This thesis asks, "How can a framework be developed that will improve prison mass-casualty planning and response?" The first part of the research involves a gap analysis comparing the prescribed performance outcomes found in emergency management doctrine and MCI planning guides to the actual performance outcomes from several MCI events. In the second part, a panel of correctional and emergency management experts participated in a modified Delphi process to validate the results of the gap analysis using a discussion-based wargaming exercise. The research found that it is possible to create an accurate depiction of the problem space by reframing gap analysis data in the context of the prison operational environment. The resulting MCI framework recommends a series of corrections-specific planning actions, backed by doctrine, which is scalable and applicable to any prison or correctional facility.

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BUILDING THE CASE FOR A PRISON MASS-CASUALTY PLANNING FRAMEWORK

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ABSTRACT

The corrections enterprise is wholly unprepared for mass casualty incidents (MCI). Prisons regularly experience incidents involving inmate violence; these events can quickly escalate into an MCI that overwhelms the prison's ability to respond and overload local medical systems. Despite numerous prison-related disasters, the corrections enterprise remains disengaged from national emergency preparedness efforts. Further complicating the issue is the lack of corrections-specific emergency management doctrine to guide prison emergency planners toward achieving national preparedness goals. This thesis asks, "How can a framework be developed that will improve prison mass-casualty planning and response?" The first part of the research involves a gap analysis comparing the prescribed performance outcomes found in emergency management doctrine and MCI planning guides to the actual performance outcomes from several MCI events. In the second part, a panel of correctional and emergency management experts participated in a modified Delphi process to validate the results of the gap analysis using a discussion-based wargaming exercise. The research found that it is possible to create an accurate depiction of the problem space by reframing gap analysis data in the context of the prison operational environment. The resulting MCI framework recommends a series of corrections-specific planning actions, backed by doctrine, which is scalable and applicable to any prison or correctional facility.

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LIST OF ACRONYMS AND ABBREVIATIONS

CBRN	chemical, biological, radiological, and nuclear
CDCR	California Department of Corrections and Rehabilitation
CHP	California Highway Patrol
EMS	emergency medical service
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
HHS	U.S. Department of Health and Human Services
ICS	Incident Command System
IED	improvised explosive devices
MCI	mass-casualty incident
NIC	National Institute of Corrections
NIMS	National Incident Management System
NRF	National Response Framework
PTSD	post-traumatic stress disorder
TTX	tabletop exercise

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EXECUTIVE SUMMARY

While incarceration rates have been slowly declining over the last decade, some would argue that the prison construction boom of the 1980s and mid-1990s brought with it an increase in prison violence.[1] Acts of inmate violence can quickly escalate, shifting from a routine prison disturbance to a multi-agency and even multi-jurisdictional response, mobilizing outside emergency medical responders, fire, and law enforcement agencies.

During a 2009 riot at a prison in Chino, California, what started as an inmate fight rapidly evolved into burning building and several hours of combat; inmates armed with homemade weapons fought one another and prison staff for hours before prison staff regained control. Local and surrounding police and sheriff's departments provided additional outside security while multiple fire and emergency medical service (EMS) agencies triaged and treated 195 injured inmates; another 55 inmates were transported to local hospitals.[2] Similarly, in 2018 at South Carolina's maximum-security Lee Correctional Institution, inmates in three housing units suddenly erupted into a seven-hour fight between gang members and responding staff. In addition to mobilizing guards from other state prisons, more than six outside agencies were called to provide security and medical support.[3] Seven inmates died from likely "stabbing and slashing wounds" received from inmate-manufactured weapons, while 17 others were evacuated to outside hospitals.[4] More than 30 medical providers spent hours treating an untold number of inmates with

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[1] Steve Reilly, "Prison Violence Rises as Budgets Slashed," *USA Today*, May 4, 2018, https://www.pressreader.com/usa/usa-today-us-edition/20180504/281547996517305; "California State Prisons—Chronology," California Department of Corrections and Rehabilitation, accessed August 10, 2017, http://www.cdcr.ca.gov/Prisons/docs/CA-State-Prisons-chronology.pdf.

[2] "250 Inmates Hurt, 55 Hospitalized after California Prison Riot," CNN, August 10, 2009, http://edition.cnn.com/2009/US/08/09/california.prison.riot/.

[3] Dwayne Mclemore and Teddy Kulmala, "7 Inmates Killed in 'Mass Casualty Incident' at SC Maximum Security Prison," The State, April 16, 2018, https://www.thestate.com/news/local/crime/article208982719.html.

[4] Mclemore and Kulmala.

less-severe injuries.[5] Ongoing violence was reported to have been so severe that medical staff was delayed from entering and providing treatment for several hours.[6]

The issue of prison preparedness goes beyond internal emergencies. In 2005, Hurricane Katrina flooded parts of New Orleans, leaving thousands of Orleans Parish Prison inmates trapped in their cells and with nowhere to go. Many languished in sometimes chest-deep water without access to food, clean drinking water, or toilet facilities.[7] Without a plan or method for evacuation, inmates were forced to endure these inhumane conditions for weeks, eventually moving to a freeway overpass and then later to an already overcrowded facility. These events highlight not only the lack of overall prison emergency preparedness but also the vulnerability of this marginalized population and the potential for unnecessary suffering. In addition to overwhelming a prison's own medical capacity, the effects of a prison mass-casualty incident (MCI) can reach far beyond prison walls. They can quickly overwhelm a community's medical infrastructure, monopolizing all available EMS in the region and delaying life-saving emergency medical response to other areas. Despite incidents like these, prisons are systemically failing to plan for MCI events and other types of emergencies.

While corrections is a crucial part of the criminal justice system and contributes to overall public safety, the role of corrections as a member of the homeland security enterprise is still largely undeveloped. Very little has been published to guide prisons toward national emergency management standards, leaving them unprepared for these multi-agency incidents. Federal Homeland Security agencies, such as the U.S. Fire Administration, have spearheaded the development of doctrinal planning guidance for the fire services and emergency medical disciplines while the corrections enterprise has no

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[5] "EMS Director Recalls Responding to Fatal Prison Riots," EMS1, April 19, 2018, https://www.ems1.com/mass-casualty-incidents-mci/articles/380389048-EMS-director-recalls-responding-to-fatal-prison-riots/.

[6] Mclemore and Kulmala, "7 Inmates Killed."

[7] Ira P. Robbins, "Lessons from Hurricane Katrina: Prison Emergency Preparedness as a Constitutional Imperative," *University of Michigan Journal of Law Reform* 42, no. 1 (Fall 2008) (November 13, 2008): 1–69.

such federal counterpart. First responders, typically well versed in conducting a coordinated and unified response, may find themselves operationally constrained when there is no plan to overcome the physical and procedural barriers of a highly restricted environment such as a prison. Medical responders, who would otherwise immediately integrate into any other type of incident, are often instead kept at a distance. They face additional safety threats treating patients who, just moments earlier, were involved in hand-to-hand combat with the intent to kill.

This thesis asks the question, "How can a framework be developed that will improve prison mass-casualty planning and response?" This research bridges a critical planning gap in prison disaster planning, which protects the community and supports national homeland security goals. While there is an expectation of overall emergency preparedness across the corrections enterprise, very little exists to describe the threats for which prisons should prepare. Developing tools to improve prison emergency preparedness, whole-community planning, and coordination across agencies and disciplines supports national preparedness core capabilities and enhances prisons' compliance with the National Incident Management System (NIMS). However, producing a successful prison MCI plan in the absence of threat-specific or prison-specific planning guidance is a high-risk proposition when the planners do not fully understand the operational environment or problem space. Providing prison emergency planners such as an MCI planning framework to address these issues will streamline their planning process, improve response, and protect the community. Furthermore, an organized response returns the emergency medical system to normal operating levels faster, preventing delays in life-saving care elsewhere in the region.

The research for this thesis was conducted in two parts: the first part identifies gaps in MCI planning and response by comparing the desired outcomes extrapolated from doctrinal sources to the actual performance outcomes of several MCI events. The limited-availability correctional emergency management doctrine and incident documentation, when coupled with the lack of a strong government advocate to lead the development of such doctrine does in fact leave open a large doctrinal void with little to guide the corrections enterprise. In the aftermath of the September 11, 2001, attacks, NIMS was

published with the intent of unifying emergency planning and response across disciplines. NIMS is not a plan; it provides the high-level concepts that guides strategic and operational planning across the homeland security enterprise, while the Incident Command System (ICS) provides the methods and frameworks for operational and tactical-level response. The universal theme of *function jointly to build response capability* echoes throughout these documents with the expectation that response agencies will gain an understanding of their partner agencies to improve local response. Similarly, it is incumbent upon correctional emergency managers to apply this doctrine to the operational environment with input from local planning partners. In comparing doctrine to actual outcomes, incidents that occurred in a secured facility or other constrained environment are especially of interest due to the similarities in how these types of incidents replicate the challenges first responders may experience when attempting to operate jointly within a correctional institution, impaired by both physical and operational security barriers. Analyzing these events revealed a series of planning and response issues ranging from site management and resource staging to gaps in communications and tactics. These issues, taken as a whole and framed in the context of the prison environment, generate an entirely new perspective on emergency planning and response.

The second part of the research employs a modified Delphi technique to validate and refine the results of the gap analysis with a panel of corrections and emergency management subject matter experts. Panel members first participated in a survey to gauge their individual perceptions about prison emergency planning, followed by a discussion-based military wargaming exercise. Panel members were presented with a case study involving interactive, fictional although credible, emergency response scenarios taking place at an actual prison familiar to the panel. Each phase of the MCI scenario presented several actions; panel members responded by describing their reactions to the crisis in terms of current plans and procedures. Participants faced operational constraints and likely planning gaps based on data collected from the gap analysis, representative of the types of issues they would likely encounter in a prison MCI. Throughout the discussion, panel members were asked follow-on questions about issues from the gap analysis and the feedback received from the initial survey. When the panel concurred that an issue was in

fact a planning gap or a problem, the facilitator would encourage a discussion of potential solutions in terms of policy, procedures, and tactics. The outcomes of the Delphi sessions provide the basis for the prison MCI planning framework.

The process of developing this framework also produced several key findings. First, an accurate depiction of the problem space is critical when developing an emergency-planning product such as a plan or framework. In the absence of sufficient prison-related data, the desired performance outcomes and lessons-learned data from non-prison MCI events can be applied to the correctional operational environment to create an accurate theoretical model. Employing a wargaming exercise with subject matter experts to gain their feedback and validate the accuracy of the model yields a list of correctional planning issues that forms this prison MCI planning framework. This process also reinforces the validity of the use of wargaming and exercises as planning tools to accurately test plans and assumptions, and develop response tactics.

As permanent, fixed locations, correctional facilities have the clear advantage of time; rather than rely entirely on the "just in time" features of ICS, these facilities have the ability to mirror the successful planning outcomes described in incidents such as the 2013 Boston Marathon and "pre-script" their next disaster. Leading up to the 2013 incidents, the Boston planners developed a deep understanding of the problem space by reviewing information such as after actions reports from previous marathon events and testing their assumptions in a series of intensive multiagency wargaming exercises. Achieving this level of preparedness in the absence of a solid plan is no simple task. At the very least, the application of this framework can help these correctional organizations jump-start their MCI planning. In the long term, this will inevitably expose them to more elements of the doctrine and potentially lead to a doctrinally compliant system of policies, procedures, and tactics for not just prison MCIs but the entire emergency management program.

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I. INTRODUCTION

In 1998, the *Atlantic* reported that California's state prison system was 40% larger than the federal prison system and was then estimated to be the largest prison system in the world.[1] California's prison construction boom of the 1980s and mid-1990s reflected a nationwide trend of building more facilities to meet the public's demand for increased safety.[2] Nationally, by the end of 2016, there was an estimated 6.5 million adults either in prison or under some form of correctional supervision.[3]

While incarceration rates have been slowly declining over the last decade, some would argue that this growth also brought with it an increase in prison violence.[4] South Carolina's Lee Correctional Institution is a maximum-security prison that has experienced several incidents involving guards taken hostage or retaking the prison by force from rioting inmates.[5] In 2018, three housing units suddenly erupted into a seven-hour fight between gang members and responding staff; in addition to mobilizing guards from other state prisons, more than six outside agencies were called to provide security and medical support.[6] Seven inmates died from likely "stabbing and slashing wounds" received from inmate manufactured weapons, while 17 others were evacuated to outside hospitals.[7] More than 30 medical providers spent hours treating an untold number of inmates with less

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[1] Eric Schlosser, "The Prison-Industrial Complex," *The Atlantic*, December 1998, https://www.theatlantic.com/magazine/archive/1998/12/the-prison-industrial-complex/304669/.

[2] "California State Prisons—Chronology," California Department of Corrections and Rehabilitation, accessed August 10, 2017, http://www.cdcr.ca.gov/Prisons/docs/CA-State-Prisons-chronology.pdf.

[3] Danielle Kaeble and Mary Cowhig, *Correctional Populations in the United States, 2016*, NCJ 251211 (Washington, DC: U.S. Department of Justice, 2016), 1.

[4] Steve Reilly, "Prison Violence Rises as Budgets Slashed," *USA Today*, May 4, 2018, https://www.pressreader.com/usa/usa-today-us-edition/20180504/281547996517305.

[5] Dwayne Mclemore and Teddy Kulmala, "7 Inmates Killed in 'Mass Casualty Incident' at SC Maximum Security Prison," The State, April 16, 2018, https://www.thestate.com/news/local/crime/article208982719.html.

[6] Mclemore and Kulmala.

[7] Mclemore and Kulmala.

severe injuries.[8] The ongoing violence was reported to have been so severe that medical staff was delayed from entering and providing treatment for several hours.[9]

Not all prison disturbances last hours; many are over in just minutes. At a California prison in 2015, a 20-minute melee involving an estimated seventy inmates ended with one inmate dead and 11 inmates transported to surrounding hospitals.[10] The threat may have ended quickly; however, the medical response to follow did not, as prison medical staff and the many responding emergency medical service (EMS) providers from adjoining counties provided on-site treatment to numerous injured inmates.[11]

As these examples demonstrate, events of this magnitude immediately shift from a prison disturbance to a multi-agency and even multi-jurisdictional response, mobilizing outside emergency medical responders, fire, and law enforcement agencies. Additionally, local hospitals may be impacted by a prison mass-casualty incident (MCI), which has cascading implications for daily operations. While the correctional enterprise overall has reached parity with law enforcement in terms of size, the role of corrections as a response partner has not been fully actualized. The National Incident Management System (NIMS) is the nationally recognized and adopted doctrine of emergency planning and response, providing the public safety community with the guidelines and frameworks to plan jointly and carry out a unified response.[12] While this adoption of NIMS has reshaped the emergency management landscape and unified federal, state, and local planning efforts, some would say that more needs to be done to prepare and guide the corrections enterprise for these types of events.

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[8] "EMS Director Recalls Responding to Fatal Prison Riots," EMS1, April 19, 2018, https://www.ems1.com/mass-casualty-incidents-mci/articles/380389048-EMS-director-recalls-responding-to-fatal-prison-riots/.

[9] Mclemore and Kulmala, "7 Inmates Killed."

[10] Sam Stanton and Richard Chang, "Notorious Member of 'San Quentin Six' Killed in New Folsom Prison Riot," *Sacramento Bee*, August 12, 2015, https://www.sacbee.com/news/local/crime/article30940113.html.

[11] Stanton and Chang.

[12] Department of Homeland Security, *National Response Framework*, 3rd ed. (Washington, DC: U.S. Department of Homeland Security, 2016), 3.

A. PROBLEM STATEMENT

MCIs are an unfortunate reality but one that first responders are generally well prepared to handle. Whether it is for a multi-car accident, an overturned bus, or a collapsed structure, police, fire, and EMS responders from surrounding jurisdictions assemble on scene, quickly organizing and managing the incident through the application of emergency management and MCI doctrine. Regardless of whether these agencies have worked together previously or are meeting for the first time, they still form an ad-hoc management structure under the Incident Command System (ICS), triage and sort patients, and direct the flow of emergency resources. Training materials and professional journals that offer advice on MCI management best practices typically imply a best-case scenario, suggesting that an open or unrestricted parking lot or stretch of highway will always be available to stage resources. This often-formulaic set of planning considerations forms the bulk of MCI planning and response doctrine, unencumbered by space or terrain restrictions.

In reality, not all MCI events are this predictable or easy to maneuver. Incidents that occur in a highly restrictive environment, such as a prison, military base, or office building, present multiple barriers that can physically prevent responders from conducting a coordinated, unified response. The problem is especially serious in prisons, where a riot can quickly escalate to an MCI and overwhelm a prison's medical capacity. By design, prisons keep the public and dangerous contraband out—and inmates contained inside. Medical responders, who would otherwise be immediately integrated into an incident, are kept at a distance by multiple layers of security and safety protocols; inside movement is carefully controlled, and exterior access points are heavily scrutinized. Further exacerbating the crisis is the fact that nearly every patient is a convicted criminal, possibly with a history of violence. Responders face additional safety threats treating patients who, just moments earlier, were involved in hand-to-hand combat with homemade slashing and stabbing weapons used with the intent to kill. A prisoner's need for treatment may not deter their desire to act violently.

Prisons regularly experience incidents involving inmate violence, and any one of these incidents can quickly escalate, becoming prolonged riots that result in high numbers of serious injuries. At a California prison in 2009, an eleven-hour incident resulted in more

than 250 injured inmates, 55 of whom required transport by ambulance and hospitalization.[13] Despite incidents like this, prisons are systemically failing to plan for MCI events and other types of emergencies. In her 2013 study, Melissa Savilonis found most prisons to be lacking a satisfactory emergency management program, leaving them vastly unprepared for the wide range of natural and man-made disasters that could affect them.[14] These major medical events can overwhelm the community's medical infrastructure, potentially monopolize all available EMSs in the region, and delay life-saving emergency medical response to other areas.

The issue of prison preparedness goes beyond internal emergencies. In 2005, Hurricane Katrina battered the Gulf Coast, causing a surge of storm water to overtop levees and flood parts of New Orleans. Trapped in their cells and with nowhere to go, thousands of Orleans Parish Prison inmates languished in sometimes chest-deep water without access to food, clean drinking water, or toilet facilities.[15] Without a plan or method for evacuation, these inhumane conditions persisted for weeks as inmates were eventually moved to a freeway overpass by a handful of armed guards, and then later to an already overcrowded facility. This event highlights not only the lack of overall prison emergency preparedness but also the vulnerability of a population that is largely ignored.[16] In his article published by American University's Washington College of Law, Ira Robbins discusses these issues from Hurricane Katrina and asserts that prison emergency preparedness is a constitutional imperative.[17] He cites the United Nations as well as international human rights law as the standard-bearers for ethical treatment of prisoners, insisting that even the extraordinary

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[13] "250 Inmates Hurt, 55 Hospitalized after California Prison Riot," CNN, August 10, 2009, http://edition.cnn.com/2009/US/08/09/california.prison.riot/.

[14] Melissa A. Savilonis, "Prisons and Disasters" (PhD thesis, Northeastern University, 2013), https://nicic.gov/library/012503.

[15] Ira P. Robbins, "Lessons from Hurricane Katrina: Prison Emergency Preparedness as a Constitutional Imperative," *University of Michigan Journal of Law Reform* 42, no. 1 (Fall 2008) (November 13, 2008): 1–69.

[16] Robbins, 2.

[17] Robbins, 1.

circumstances presented by a catastrophic event do not allow for human rights abuses.[18] Robbins even goes so far as to say that inadequate emergency plans also present a threat to the community.[19]

The Savilonis study on prison emergency preparedness also found a systemic failure across correctional agencies to plan for major emergencies.[20] She observes that pets in America fare far better in emergencies than inmates, emphasizing not only a lack of planning but also a lack of concern for this marginalized population.[21] In light of these deficiencies, Savilonis advocates for federal reform, Federal Emergency Management Agency (FEMA) oversight, or at the very least, for federal guidance and standards for prison and jail emergency plans.[22] She suggests that FEMA's coordinating role during the disaster management cycle (mitigation, preparedness, response, recovery) extends to prisons as well. Savilonis echoes Robbins's assertions as to the prison's responsibilities in regard to inmate welfare during emergencies. She states, "Prisons are legally responsible for the welfare of prisoners," and that as wards of the state it is the state's duty to protect them from "preventable harm."[23] These two authors confirm both a lack of federal emergency planning guidance for prisons as well as a systemic failure to plan; bolstering the argument for prison planning frameworks, citing both legal and moral justifications as well as the potential effects on public safety.

Corrections are a crucial part of the criminal justice system and contribute to overall public safety; however, the role of corrections as a member of the homeland security enterprise is still largely undeveloped. As both the Savilonis and Robbins studies have confirmed, very little has been published to guide prisons toward national emergency

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[18] Robbins, 5.

[19] Robbins, 19.

[20] Savilonis, "Prisons and Disasters," 11.

[21] Savilonis, 17.

[22] Savilonis, 67.

[23] Savilonis, 12.

management standards. Among the few prison emergency-planning topics that are documented, federal planning guidance for prison MCIs is almost entirely unexplored, which leaves a wide gap in planning coverage. The application of just-in-time, ad-hoc organizational models such as ICS still falls short when there is no plan to overcome the physical and procedural barriers of a highly restricted environment.

B. SIGNIFICANCE OF THESIS RESEARCH

This research bridges a critical planning gap in prison disaster planning. After the September 11 attacks (9/11), the renewed emphasis on governance and oversight of the nation's emergency management system brought with it a host of standardized doctrine, systems, and frameworks with the intent of preparing communities, unifying response disciplines, and improving planning and response at all levels of government. In addition to law enforcement and the fire service, FEMA produced discipline-specific federal guidance to assist public works, schools, hospitals, and even the military with integrating and operating jointly as a member of the response community. As other studies have shown, these federal efforts excluded the corrections enterprise and no such federal documents exist. Some suggest that corrections are viewed as "self-sufficient and unlikely to suffer damages," despite the number of serious incidents that contradict this line of thinking.[24] Disasters that affect a prison will nearly always be multi-agency events, precisely for which these FEMA guidelines were designed.

Improving prison MCI preparedness protects the community and supports national homeland security goals. The Department of Homeland Security's *National Preparedness Goal* outlines several critical core capabilities that serve as both guidelines and goals for response agencies.[25] Developing tools to improve emergency preparedness, whole community planning, and coordination across agencies and disciplines supports these national preparedness core capabilities and enhances prison's compliance with NIMS. Providing prison emergency planners an MCI planning framework could streamline the

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[24] Savilonis, 25.

[25] Department of Homeland Security, *National Preparedness Goal*, 2nd ed. (Washington, DC: U.S. Department of Homeland Security, 2015), 3.

planning process, improve response, and return the emergency medical system to normal operating levels faster. This will not only save lives at the scene of the incident but also prevent delays in life-saving care elsewhere in the region.

This research aims to solve a planning gap in one of the nation's largest prison systems. Although reforms in inmate rehabilitation and declining crime rates are slowly reducing the prison population overall, the California Department of Corrections and Rehabilitation (CDCR) remains one of the top three largest correctional systems in the United States.[26] CDCR is formally considering the results of this research to improve its own MCI planning, potentially affecting communities across the state.

In addition to statewide implementation, this research also has the potential to improve prison MCI planning and response across the corrections enterprise. As a national leader in corrections, the CDCR frequently hosts correctional leadership from other states and even other countries to exchange ideas, innovations, and lessons learned to improve the profession and enhance public safety. The CDCR also collaborates with the National Institute of Corrections (NIC) on a variety of correctional topics. In additional to being a federal agency, the NIC serves as both an educator and information clearinghouse on a wide range of corrections topics. The NIC library currently contains only one jail emergency planning guide that includes discussions of leadership and management topics, and provides an emergency plan-auditing tool.[27] On the topic of mass-casualty planning, this emergency planning guide simply asks, "Does the plan include mass casualties/ triage?"[28] While an inventory of potential plans is a helpful starting point, in the 10 years since its publication there have been no follow-on publications to suggest *how* to make those plans or to what end should those plans accomplish. This MCI planning framework

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[26] E. Ann Carson, "Prisoners in 2015" (Washington, DC: U.S. Department of Justice, December 2016), https://www.bjs.gov/content/pub/pdf/p15.pdf.

[27] Jeffrey A. Schwartz and Cynthia Barry, *A Guide to Preparing for and Responding to Jail Emergencies* (Washington, DC: U.S. Department of Justice, 2009).

[28] Schwartz and Barry, 110.

is a tool that is applicable to any correctional facility, jail, or prison; institutions such as the NIC may consider promulgation to correctional agencies across the nation.

C. RESEARCH QUESTION

Similar to a framework in the physical sense that serves as the skeleton that supports and holds together a building or physical structure, a framework is a conceptual structure that follows a given set of rules, limits, or policies to guide decision-making or to solve a problem. A framework provides a starting point as well as the boundaries, while still allowing for additions within the established limits. A *planning framework* provides a series of considerations for prison emergency planners to address when developing a prison MCI plan that satisfies doctrinal and operational requirements.

This thesis conducts an analysis of emergency management and MCI doctrine, after action reports from mass-casualty events, federal documents, active-shooter incidents, prison incidents, and other related data to both validate the need for and develop a prison MCI planning framework. The specific research question addressed is: How can a framework be developed that will improve prison mass-casualty planning and response?

D. LITERATURE REVIEW

This review examines federal emergency management doctrine, legal and policy analyses, emergency services professional journals, and federal white papers on MCI best practices.

The emergency management discipline is highly structured and deeply developed, providing a wealth of materials on general emergency planning and response practices. Public safety disciplines such as law enforcement, fire, and EMSs have further enhanced the enterprise with discipline-specific doctrine. With a lack of contributions from corrections discipline, the topic of prison mass-casualty planning is wholly unaddressed.

A majority of the scholarly documents available about MCI events center on trauma care and the management of medical resources. Active shooter incidents and post-9/11 concerns of improvised chemical and explosive terror attacks generated numerous articles on hospital and community planning, and medical organizations have convened

conferences to review studies and issue formal recommendations for reducing patient mortality from specific types of injuries.[29] While the anticipated chemical attacks never quite manifested, concerns over the vulnerability of the public when attending mass gathering events and the apparent increase in active shooter incidents prompted the federal government to issue additional planning guides to prepare for and respond to such threats.[30] These federal planning documents form the bulk of MCI-specific planning and response doctrine.

In order to extract the information necessary to develop prison-specific recommendations and bridge this planning gap, it is necessary to examine the doctrine that guides general emergency planning and response practices and academic research specific to the gaps and failures in prison emergency planning. FEMA has published numerous white papers about lessons learned and best practices following various MCI events, and professional publications such as the *Journal of Emergency Medical Services* provide their commentary.

1. Mass Casualty and Emergency Management Doctrine

Merriam-Webster defines *doctrine* as both "something that is taught" and a "body of principles in a branch of knowledge or system of belief."[31] FEMA adds that doctrine is an organization's beliefs "about the best (or right) way to do things" and "reflects the culture of an organization."[32] FEMA serves as the source of federal emergency management doctrine, providing the emergency management discipline with the

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[29] Lenworth M. Jacobs et al., "Joint Committee to Create a National Policy to Enhance Survivability from Mass Casualty Shooting Events: Hartford Consensus II," *Connecticut Medicine* 218, no. 1 (March 2014): 476–78.

[30] U.S. Fire Administration, *Fire/Emergency Medical Services Department Operational Considerations and Guide for Active Shooter and Mass Casualty Incidents* (Washington, DC: U.S. Department of Homeland Security, 2013), https://www.usfa.fema.gov/downloads/pdf/publications/active_shooter_guide.pdf.

[31] "Doctrine," in *Merriam-Webster*, accessed July 21, 2018, https://www.merriam-webster.com/dictionary/doctrine.

[32] Federal Emergency Management Agency, *IS-822: Fundamentals of Management and Support Coordination of Federal Disaster Operations* (Washington, DC: U.S. Department of Homeland Security, 2013), https://training.fema.gov/is/courseoverview.aspx?code=IS-822.

frameworks, systems, and methods to plan for, respond to, and recover from emergencies. FEMA also "encourages states and localities to develop comprehensive disaster preparedness plans"[33]

Federal doctrine is promulgated through a library of interconnected and complimentary documents that links emergency management from the federal to the local levels. The National Response Framework (NRF) is the "mother" document of our nation's emergency management system, outlining strategic-level, core capabilities that include emergency response.[34] Emergency management capabilities and systems are prescribed in further detail under NIMS, which provides all levels of government with the operational frameworks and organizational structures. Born of the lessons learned responding to the 9/11 terrorist attacks and first published in 2004, NIMS brought standardization and continuity across the homeland security enterprise. NIMS provides the emergency management discipline with a systematic approach that guides "command and coordination of incidents, resource management, and information management."[35] Together these documents link the tactical, operational, and strategic levels of planning, response, and governance, guiding how the response community works together in incidents ranging "from traffic accidents to major disasters."[36]

Despite the existence of this extensive body of knowledge that guides states, communities, and public safety agencies in the development and maintenance of their preparedness and response plans, the corrections enterprise has somehow been absent from these efforts. While NIMS prescribes a whole community approach, that community appears to have forgotten about their jails and prisons.[37] Few would argue against the

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[33] Federal Emergency Management Agency. "About the Agency," accessed August 18, 2018, https://www.fema.gov/about-agency.

[34] Department of Homeland Security, *National Response Framework*, 21.

[35] Federal Emergency Management Agency, *National Incident Management System*, 3rd ed. (Washington, DC: U.S. Department of Homeland Security, 2017), 2.

[36] Federal Emergency Management Agency, 1.

[37] Savilonis, "Prisons and Disasters," 15.

government's responsibility to protect the inmates under their care, and the operational constraints of a disaster certainly does not waive this obligation.[38] Despite this obligation, several documented occurrences of disasters necessitating a jail or prison evacuation that found officials unprepared presents a dire and recurring pattern of neglect. In addition to the Orleans Parish Prison incident that left thousands of inmates trapped and suffering following the arrival of Hurricane Katrina, a similar incident occurred in Texas in 2008. With Hurricane Ike approaching Galveston County, Texas, county officials ordered a mandatory evacuation for the public; the jail, however, sheltered in place despite severe weather warnings. The resulting investigations and lawsuits describe experiences and circumstance similar to the Orleans Parish incident.[39] Numerous studies of these and other prison incidents have shown untrained staff and a lack of emergency plans.[40] Robbins agrees with these findings, highlighting an NIC study that found an overall lack of emergency training and exercise across the corrections enterprise.[41]

Some would argue that the federal government's failure to address issues specific to prison emergency preparedness and a lack of federal oversight has led to the current gaps. However, these doctrinal publications issued by FEMA are considered guidance, as their adoption by states is voluntary. Savilonis contends that despite this abundance of structured doctrine, the federal government's role in coordinating national planning efforts should include prisons and asserts that federal enforcement or oversight is required.[42] Robbins, too, suggests federal intervention; however, past federal efforts to force state adoption of federal programs through legislation is historically fraught with legal challenges over federal power and states' constitutional rights.[43] Rather than compel states

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[38] Robbins, "Lessons from Hurricane Katrina," 4.

[39] Savilonis, "Prisons and Disasters," 20.

[40] Savilonis, 14.

[41] Robbins, "Lessons from Hurricane Katrina," 16.

[42] Savilonis, "Prisons and Disasters," 12.

[43] Robbins, "Lessons from Hurricane Katrina," 60.

to adopt NIMS through legislation, the receipt of federal funds for many disaster-related programs are instead contingent on states' NIMS compliance.[44]

And while correct that NIMS does not specifically address prison issues or provide specific details for managing prison emergencies, NIMS does not explain to the local fire department how to fight a fire, either. As FEMA explains within the doctrine itself, NIMS "is not a response plan" but rather a "systematic approach to incident management."[45] It is the role of the emergency planner to apply these tools and systems and for responders to operate within the framework; the planning efforts prescribed by NIMS facilitates the interface of disparate disciplines so they may function efficiently in times of crisis.[46]

Some discipline-specific doctrine does exist. In response to numerous mass-casualty and active-shooter events, FEMA convened multiple expert panels from the nation's leading EMS and medical organizations; they reviewed the existing literature on MCI events, which primarily consisted of after action reports and emergency plans, and they attempted to formulate a base document for promulgation to the field. The panels found a "lack of systematic mandatory inclusion of all EMS provider types in State, regional, and local emergency plans," concluding that further work was needed to develop a comprehensive national strategy.[47] The resulting operational template that FEMA released in 2012 was one of its first official planning guides to the EMS community.[48] The following year, FEMA released *Fire/EMS Department Operational Considerations and Guide for Active Shooter and Mass Casualty Incidents,* which directly addresses many

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[44] Robbins, 60.

[45] Federal Emergency Management Agency, *National Incident Management System*, 2; "NIMS Frequently Asked Questions," Federal Emergency Management Agency, accessed August 18, 2018, https://www.fema.gov/nims-frequently-asked-questions.

[46] Department of Homeland Security, *National Response Framework*.

[47] U.S. Fire Administration, Federal Emergency Management Agency, and U.S. Fire Administration, *Operational Templates and Guidance for EMS Mass Incident Deployment* (Washington, DC: U.S. Department of Homeland Security, 2012), 1.

[48] U.S. Fire Administration, Federal Emergency Management Agency, and U.S. Fire Administration, *Operational Templates*.

lessons learned from active-shooter incidents that the previous document was lacking.[49] Generally, these discipline-specific documents still defer back to the frameworks and systems found in doctrine, highlighting that their foundations are NIMS and ICS and as such, recommend following the federal doctrinal principles.

While these documents are mostly based on the existing systems and frameworks, they do provide some updated theory on MCI response. For example, the after action reports from previous active-shooter events suggested that the operational environment for unarmed first-responders such as fire and EMS have grown increasingly more hazardous; however, this latest guide contradicts that assertion, stating "research and history have indicated that the active risk at most incidents is over before first responders arrive on scene, or shortly thereafter."[50]

2. Proper Resource Staging and Scene Management

The available literature on MCIs suggests that managing the incident site and facilitating the efficient movement of responders and resources can be as important as managing the disaster itself. Following a well-publicized fire incident in 2003, FEMA issued a white paper detailing the issues and lessons learned surrounding site management.[51] In this particular incident, the first responders to arrive on-scene had neglected to perform several actions related to site management; the resulting gridlock nearly halted emergency vehicle movement.[52] Recognizing the potentially tragic consequences of not acting, a medical responder organized the scene and prevented further delays.[53] FEMA's emphasis of this topic highlights not only the importance of this issue but also the existence of planning and training gaps.

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[49] U.S. Fire Administration, *Operational Considerations*.

[50] U.S. Fire Administration, 4.

[51] NOAA U.S. Department of Homeland Security, *Mass Casualty Incidents: Establishing a Staging Area*, Lessons Learned Information Sharing (Washington, DC: U.S. Department of Homeland Security, 2004).

[52] U.S. Department of Homeland Security.

[53] U.S. Department of Homeland Security.

Professional journals often offer their perspective on issues from the field; the *Journal of Emergency Medical Services* (*JEMS*) has published at least three articles about the importance of proper resource staging, complementing FEMA's MCI guidance. According to A. J. Heightman, a veteran EMS director and editor-in-chief of *JEMS*, "Mass-casualty incidents (MCls) are possibly the most demanding and chaotic events a responder will ever be confronted with."[54] He describes the site management issues as easily neglected and most likely forgotten, which accurately describes the 2003 fire incident. In the rush to deliver emergency medical care while stabilizing the incident, vehicle staging competes with incident communications as the issue most likely to fail—and frequently it does.[55] Whether it is an MCI or a pre-planned event, Heightman asserts that managing vehicle staging and the flow of responder vehicles through the incident site should be approached with the same organization and efficiency as the morning drop-off at an elementary school.[56] This carefully orchestrated movement of vehicles alleviates confusion, congestion, and most importantly, delivers care as efficiently as possible; this is especially critical in an MCI event, where seconds count. Heightman calls this "one of the most essential principals of mass casualty incident (MCI) management."[57]

Just as Savilonis reports a total lack of prison-specific planning guidance, these documents represent a starting a point for the medical response community. Until a definitive national strategy document is produced that provides the appropriate level of detail, planners and responders will continue to look to professional journals for the latest lessons learned and timely analysis of major events.

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[54] A. J. Heightman, "10 Tips to Help Gear Up for MCIs," *Journal of Emergency Medical Services* 37, no. 11 (November 14, 2012), http://www.jems.com/articles/print/volume-37/issue-11/major-incidents/10-tips-help-gear-mcis.html.

[55] A. J. Heightman, "Vehicle Staging Is Essential at an MCI," *Journal of Emergency Medical Services* 40, no. 5 (April 30, 2015), http://www.jems.com/articles/print/volume-40/issue-5/departments/letter-form-the-editor/vehicle-staging-is-essential-at-an-mci.html.

[56] Heightman.

[57] Heightman.

3. Conclusion

While emergency management doctrine provides a standardized structure and systems for public safety disciplines to operate together, the federal guidance and direction for applying these systems to the corrections enterprise is entirely lacking. From the literature review it is clear that in multi-agency events, managing the incident site, staging and organizing responders, and directing the flow of resources into and through the incident site are critical issues and recurring problems. It quickly becomes apparent that the logistics of managing an MCI event is almost equally important as the delivery of emergency medical care.

For an organization like a prison, which may experience a major event and suddenly need to interface with the emergency medical system and other allied response agencies, planning and preparedness are no less important, yet very little has been published on prison emergency management or prison MCI events. The failure to plan not only threatens the safety of the public but also may lead to abuses and violations of an inmate's right to proper care and protection from harm. This issue goes beyond safety. As both Savilonis and Robbins agree, it is also about protecting the vulnerable and under-represented members of society—which is part of our moral code.

E. RESEARCH DESIGN AND METHODOLOGY

The research for this thesis was conducted in two parts: the first part identifies gaps in MCI planning and response by comparing doctrine to the actual performance outcomes of several MCI events. The second part of the research employed a modified Delphi technique to refine the gap analysis data with a panel of correctional experts. The outcomes of the Delphi sessions validate the gap analysis data and provide the basis for the proposed prison MCI planning framework.

1. Gap Analysis

This gap analysis draws from methodologies such as Mager and Pipe's Performance Analysis Model and Gilbert's Performance Engineering Model, both of which prescribe methods for identifying appropriate strategies for correcting deficient

performance.[58] In its simplest form, a gap analysis examines the actual performance outcomes and compares them to the desired performance outcomes, then analyzes the causes of the performance deficiencies in order to determine an appropriate method of correction. The identification and emphasis of these particular performance issues found in case studies, professional journals, and after action reports answers the primary question that both of these methods ask, "Is this task important?"[59] Mager and Pipe primarily focus on the performance and actions of the individual, but also inquires as to the organizational roadblocks that are preventing optimal performance.[60] Gilbert on the other hand examines collective performance, viewing problems from the policy, strategic, and tactical levels.[61] This analysis borrows from both models; the goal of this gap analysis is to offer organizational recommendations such as training or policies as well as tactical considerations to improve prison MCI response.

Determining the performance baseline or the specific criteria for an optimal prison MCI response presents several challenges. As discussed in the literature review, the corrections enterprise generally lacks useable performance data or incident records that accurately describe specific planning and response issues in sufficient detail to create adequate plans. Direct observation of performance is simply not possible without actual incidents readily available, and conducting multiple full-scale exercises for the purpose of observation is resource prohibitive. Additionally, training exercises may not accurately reflect behavior during an actual crisis. Federal guidelines or performance standards for non-prison MCI events are very generalized, which speaks to the doctrine's flexible nature, and situation-specific planning templates for pre-planned mass gatherings do not include secured facilities.[62] As the national authority on emergency response, FEMA's

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[58] William J. Rothwell and H. C. Kazanas, *Mastering the Instructional Design Process: A Systematic Approach*, 4th ed. (San Francisco, CA: Pfeiffer, 2008), 31–32.

[59] Rothwell and Kazanas, 30.

[60] Rothwell and Kazanas, 34.

[61] Rothwell and Kazanas, 33.

[62] U.S. Fire Administration, Federal Emergency Management Agency, and U.S. Fire Administration, *Operational Templates*, 63.

foundational MCI planning document is merely a starting a point in working toward improving response, synthesized from a cross-section of policies and best practices from across the nation.[63] FEMA admits that a national policy has yet to be developed that fully details the elements of a successful MCI response. National policy is an ambitious goal, considering that an MCI can occur in virtually any environment and involve limitless combinations of humans, hazards, and injuries.[64] However, even in the absence of prison incident data or an active incident to test the baseline, the application of existing data from non-prison incidents to the problem space yields substantial data. An analysis of FEMA's best practices, after action reports and case studies from MCI incidents, professional journals, and their commentary of lessons learned presents a thorough list of performance issues and planning challenges when examined as a whole. By using these data to extrapolate a performance baseline and viewing it through the lens of planning for a prison MCI, the beginnings of a planning framework start to manifest.

The institutionalized process of producing after action reports and documenting post-incident lessons learned are the hallmark of a learning organization and contribute greatly to improving the emergency management enterprise. An analysis of incident after action reports, in addition to the doctrinal sources referenced in the literature review, active shooter incidents, MCI case studies, and professional journals reveal many critical planning and response issues repeated multiple times across the country and spanning the decade. Issues involving a secured facility are especially of interest because in many ways these types of incidents replicate some of the challenges correctional institutions may experience when attempting to operate jointly in an environment separated by both physical and operational security barriers.

This study involves an analysis of emergency management doctrine comprising of federal planning documents to identify the set of activities and procedures that form the basis for optimal performance in an MCI event. Incidents that occurred in highly restrictive

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[63] U.S. Fire Administration, Federal Emergency Management Agency, and U.S. Fire Administration, 1.

[64] U.S. Fire Administration, Federal Emergency Management Agency, and U.S. Fire Administration, 2.

environments have shown some similarities to prisons, including physical security measures that prevent first responders from entering a building and disparities in operational procedures that hamper a unified response. After action reports and studies of actual incidents also provide details of best practices that validated the doctrine and further defined optimal performance. These are useful in identifying planning requirements for the restrictive environments of prisons; identifying these trends in less-than-optimal performance and comparing them to an ideal response presents the overall planning gap.

Two categories of MCIs specifically excluded from this thesis are catastrophic natural disasters and chemical, biological, radiological, and nuclear (CBRN) events. Many sources outside of the United States use the term *mass-casualty incident* to describe a national incident, such as a major earthquake, that in addition to producing a high volume of casualties is also accompanied by a catastrophic loss of infrastructure. The loss of roads, hospitals, and utilities hampers response and delays care, which further contributes to the national death toll. It is important to make the distinction that this thesis assumes a localized event with fully functioning medical and transportation infrastructure. Similarly, while CBRN events produce many casualties and are closely associated with MCIs, the typical CBRN response involves a patient decontamination operation, which is not germane to the topic at hand or the solutions pursued.

2. Framework Development

In the second phase of the research, a case study was conducted using a discussion-based "wargaming" exercise following a process similar to that used by planners of the Boston Marathon. The *New England Journal of Medicine* reported that in recent years public safety officials in Boston engaged in a planning process from the perspective of it being a "planned mass-casualty event."[65] This unique perspective helped them anticipate many potential problems in advance and is credited with a highly successful outcome during the 2013 bombing incident. While they had the clear advantage of being able to pre-

[65] Paul D. Biddinger et al., "Be Prepared—The Boston Marathon and Mass-Casualty Events," *New England Journal of Medicine* 368, no. 21 (May 23, 2013): 1958–60, https://doi.org/10.1056/NEJMp1305480.

stage a certain amount of medical and law enforcement resources, the value of the planning process should not be overlooked. Despite this perceived advantage, responders had a 26-mile route to contend with as well as large crowds, restricted travel routes, and the usual if not excessive amount of daily emergency calls. By drawing on lessons learned from prior years, the Boston Marathon planners were essentially conducting an annual gap analysis to build on noted successes and jointly develop solutions prior to the next event. Other sources have discussed considerations for pre-planning as well, especially for fixed locations such as schools or stadiums. Heightman even goes so far as to suggest that mass-gathering venues pre-position a cache of MCI supplies, beyond just the color-coded tarps and patient triage tags that Heightman suggests EMS crews should already have.[66]

For this study, the Naval Postgraduate School Institutional Review Board (IRB) approved a three-part modified Delphi process employing an initial survey, a discussion-based wargaming tabletop exercise (TTX), and a participant debrief to verify consensus. The approved IRB protocols for this study required the enforcement of several preventative measures to protect both the participants and the integrity of the research. Participant responses were anonymized throughout the study to protect their identity, and no personally identifiable information was collected. To safeguard against coercion or even the perception of coercion, all potential participants were informed that their participation was for research purposes and entirely voluntary; none of the participants had a supervisory relationship with either each other or the researcher.

A panel of eight correctional experts, recruited from a diverse cross-section of CDCR correctional program areas relative to planning and response functions such as custody operations, medical, administration, and emergency management participated in the study. Additionally, also participating were two emergency planners from the state Office of Emergency Services with mutual aid and emergency response experience that involved the selected correctional facility. Participants each submitted a brief biographical sketch consisting of current job title, duty assignment, years of experience, positions worked, and other details necessary to establish credibility and expertise.

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[66] Heightman, "10 Tips to Help Gear Up for MCIs."

In the first Delphi iteration, panel members completed a brief survey (see Appendix A) that inquired about their perceptions of their organization's preparedness and asked them to identify problems or difficulties they anticipated their facility would experience if an MCI event were to occur today. The survey began with a short description of that now infamous 2009 Southern California prison disturbance that escalated to an MCI as a way of providing the participants with context to frame the questions. With this historical incident as the background and context, participants were asked:

- If your local institution were to experience a major, mass-casualty producing incident today, similar in size and scope to the 2009 incident, do you feel that your current plans and procedures have prepared your institution for such an event?

- Please describe any joint planning activities you have participated in with local first responders, or any other emergency preparedness activities you have been a part of in the last 12 months.

- If your local institution were to experience an event like the one described above, please briefly describe the areas or issues that in your opinion would go well.

- Briefly describe the areas or issues that in your opinion would require substantial improvement, or points of failure.

Participants completed the initial survey individually, at their respective places of work and without knowing the identities of the other participants, further safeguarding against participant-to-participant coercion. With the assurance of anonymity, they could answer freely without fear of reprisal for sharing an unpopular opinion or controversial topic. As an additional safeguard, they were asked to avoid sharing their surveys with coworkers or other participants, satisfying IRB protocols for preventing coercion and protecting research subjects.

The second Delphi iteration presented participants with a case study involving interactive, fictional although credible, emergency response scenarios taking place at an

actual prison familiar to the panel. Participants faced operational problems, constraints, and likely planning gaps based on data collected from the gap analysis and survey, representative of the types of issues they would like encounter in a prison MCI. In response to the evolving disaster scenario, participants described in detail their current emergency plans and procedures as well as the communication systems and equipment likely employed. They recommended solutions in terms of policy or procedures and, if feasible, developed actual tactics in situations where plans and assumptions did not anticipate the real-world implications of an incident of this magnitude. Correctional staff perform their duties in a dangerous environment, increasing the likelihood of having experienced or witnessed a traumatic event on the job. As a precautionary elective measure, IRB protocols required notifying participants in advance of the potentially stressful nature of the scenario and its potential for triggering a reaction among those participants who may suffer from post-traumatic stress disorder (PTSD). Panel members were free to leave the room temporarily or discontinue participation if they experienced an emotional reaction. The outcomes and solutions of this exercise were then compared to the gap analysis, screened for doctrinal compliance, and used to make recommendations for a prison MCI planning framework.

As the third Delphi iteration and to ensure consensus, the final set of recommendations was presented to the panel for comment and feedback prior to thesis submission. The CDCR may be unique in that it is one of the few state correctional agencies with a fully developed emergency management program that meets federal standards, bringing additional credibility to the final outcome of this thesis.

Chapter II details the full scope of the prison MCI planning gap through a gap analysis comparing desired performance found in doctrine to outcomes from actual events, and then framing those issues in a correctional context. This review of the doctrine behind domestic mass-casualty planning and response provides a snapshot of the systems and methods available to emergency planners and first responders and serves as the foundation used to analyze the planning and response shortfalls identified in a series of MCIs. This chapter concludes with a discussion of these issues in the context of a correctional environment. Chapter III contains a validation of these potential prison mass-casualty–

planning shortfalls. This chapter introduces the concept of wargaming to discover planning gaps and develop solutions, then employs this process with a panel of subject matter experts. Chapter IV provides this study's conclusions and introduces a planning framework for prison MCIs.

II. CONDUCTING A GAP ANALYSIS

This thesis asks the question, "How can a framework be developed that will improve prison mass-casualty planning and response?" The art and science behind predictive analysis suggest that extrapolating information from known data may provide indicators of future behavior; however, the corrections enterprise is generally lacking in prison-specific mass-casualty planning guidance, historical information, incident records, or other suitable performance data to serve as a logical starting point. Studying these types of incidents through direct observation is simply not possible, and accurate performance cannot be fully determined through full-scale exercises. In the absence of such data, a gap analysis comparing optimal performance or desired outcomes to the actual performance documented in MCI events forms the basis for a substitute dataset.

This chapter details the process of conducting a gap analysis to identify potential planning and response issues and tactical considerations critical to developing a prison MCI planning framework. The desired outcomes extrapolated from federally prescribed methods and incident management models serves as the performance baseline in the gap analysis. A discussion of actual MCI incidents follows, highlighting responder shortfalls and key lessons learned from those events that are applicable to the problem space. Issues involving a secured facility are especially of interest because in many ways these types of incidents replicate the challenges correctional institutions may experience when attempting to operate jointly with first responders in an environment separated by both physical and operational security barriers. This chapter concludes with an analysis of the prison MCI planning gap, applying these issues to a specific correctional setting to validate the gaps in prison MCI planning. The task of establishing a performance baseline begins with the guiding documents that forms the doctrinal foundations of MCI planning and response. The sum of federal documents that comprises the overall doctrine is extensive and it would be impractical to review all of it in its entirety in order to demonstrate the full scope of desired performance. However, a brief discussion of the history, relationships, and content of these doctrinal materials, which includes federal guidance documents such as NIMS, is necessary to demonstrate how they form the basis for MCI planning and response doctrine

and to illustrate the strategic and organizational-level concepts that drives operational-level planning and tactical-level response. Professional journals, while not necessarily doctrinal, should not be ruled out as a source of baseline performance data as they are generally written for the profession, by the profession, and in many cases seek to clarify or enhance the materials supplied by official government sources. Where NIMS may sometimes express doctrinal guidance in broad terms, leaving it up to the individual jurisdictions and disciplines to interpret and adapt their planning and response processes, the tips and best practices supplied from these publications often provides a critical and timely perspective of tactical-level issues.

A. DESIRED PERFORMANCE PRESCRIBED IN DOCTRINE

In 2003, President George W. Bush issued Homeland Security Presidential Directive-5, ordering the establishment of a "single, comprehensive approach to domestic incident management."[67] Building on the lessons learned from the 9/11 attacks, the nation was in need of a formalized, unifying system that would provide continuity in planning and response across all levels of government. The NRF, originally released as the National Response Plan in 2004, became the strategic-level master document of our nation's emergency management program. The NRF codifies a holistic, whole community approach to all aspects of the emergency management enterprise through key principles such as a tiered response model; engaged partnerships; unity of effort; and scalable, flexible, and adaptable operational capabilities. The improved system of doctrine sought to standardize emergency management, arming planners and responders with the doctrinal "concepts, principles, and terminology"; words and phrases often associated with a professional discipline, a culture, or even a belief system.[68] Since promulgation, the NRF and its components have been adopted nationally by nearly every response agency. Today, members of the emergency management community subscribe to this shared vision, speak

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[67] U.S. Department of Homeland Security, *Homeland Security Presidential Directive 5* (Washington, DC: U.S. Department of Homeland Security, 2003), https://www.dhs.gov/sites/default/files/publications/Homeland%20Security%20Presidential%20Directive%205.pdf.

[68] U.S. Department of Homeland Security, 4.

a common language, use similar terms, and are united through this set of goals and standardized practices. FEMA's 2018–2022 strategic plan even speaks of a building a "culture of preparedness," implying an enterprise-wide community connected by doctrine.[69]

This multi-echelon federal framework represented a radical departure from the previous "federal-centric" plans, recognizing that in most cases a catastrophic incident will begin and end at the local level, often bookending a robust state and federal response in-between. Under the whole community concept, when one tier, such as a local government, is overwhelmed by an incident or lacks the capabilities to respond, it is the intent of the national framework to provide additional personnel and materials to augment those local efforts and scale up the response by activating county, state, and federal response agencies.

Using a fictional county as an example, Laurel County represents a typical, rural county located in the heart of Anystate, USA. The Laurel County Sheriff's Office administers public safety services to the smaller towns and unincorporated areas, while the cities of Johnstown and Columbia both operate their own police, fire, and EMS departments. The Laurel County Office of Emergency Management resides in the county sheriff's office and serves as the county emergency management authority. A series of severe thunderstorms have swelled the local rivers and streams, threatening to flood both Johnstown and Columbia; several smaller towns that dot the county map have already experienced flooding. These local towns lack sufficient labor and supplies to respond to the emergency, prompting Laurel County to bring additional dump trucks, sandbags, and crews to mitigate the flood's effects. After several more days of intense rain, the state's governor mobilizes state swift-water rescue teams and the National Guard to rescue hundreds of Johnstown residents stranded on the rooftops of their homes. With thousands of residents displaced or living in shelters, FEMA arrives with truckloads of bottled water, delivers trailers for temporary shelters, and establishes a disaster recovery center. Under

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[69] Federal Emergency Management Agency, "2018-2022 FEMA Strategic Plan" (Washington, DC: U.S. Department of Homeland Security, March 15, 2018), 18.

the NRF's vision, multiple disciplines from all levels of government come together to support local response efforts.

While it was always incumbent upon local responders to be first in, it was now explicitly clear in federal doctrine that (for most incident types) local communities such as those in Laurel County truly have the lead role, supported by state and federal response agencies. This scenario is an extremely simplified representation of the tiered response model; coordinating the actions of multiple fire, law enforcement, public works, federal responders, and even military resources converging on a local jurisdiction and responding together harmoniously was previously fraught with operational and jurisdictional peril. The NRF provides further guidance for unifying these disparate disciplines and jurisdictions via NIMS.[70] NIMS is billed as an all-hazards approach to emergency management and explicates the methods for accomplishing the NRF by providing emergency response agencies at the federal, state, and local levels with organizational-level planning and response guidance as well as a management framework applicable to both the organizational and tactical levels.[71] Where the NRF is essentially the vision or blueprint, NIMS is the system for achieving it; the guiding principles of flexibility, standardization, and unity of effort serve as the theoretical backbone of NIMS and supports the NRF's whole community approach, framing the operational concepts of resource management, command and coordination, and communications and information management.[72] These principles and concepts infer several key performance outcomes with regard to planning for and responding to multi-agency, multi-jurisdictional events such as an MCI.

First, response agencies are encouraged to share risk and pool resources with neighboring jurisdictions in order to develop mutually supporting capabilities. A small town with a single ambulance may find itself suddenly resource constrained and limited in its ability to deliver emergency care when facing a multi-car collision with several seriously injured patients. However, several neighboring towns can potentially augment their EMS

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[70] U.S. Department of Homeland Security, *HSPD-5*, 2.

[71] Federal Emergency Management Agency, *National Incident Management System*, 1.

[72] Federal Emergency Management Agency, 3.

resources by establishing a formal agreement for mutual aid, thereby agreeing to support each other when needed. This acts as a force multiplier for each participating jurisdiction, allowing each of them to temporarily gain additional response capability without investing in additional ambulances or personnel. On a larger scale, agreements such as this may be formed regionally or even developed as a statewide capability, furthering the whole community approach. Similarly, these agreements may involve the deployment of mixed-resource types to form a joint response capability, such as multiple jurisdictions providing a helicopter and off-road vehicles to form a search and rescue team to locate hikers lost in the wilderness. Although formalized agreements are beneficial, they are not necessarily required. Mutual aid is the simple act of neighbors helping neighbors, or more specifically, neighboring jurisdictions helping each other. A jurisdiction in need can also ask for assistance directly or through their respective mutual aid system, as NIMS doctrine provides an integrated method for counties, regions, or states to manage and facilitate mutual aid requests.

The complementary NIMS principles of flexibility and standardization further unifies these response organizations and helps them to overcome operational challenges. While some would argue that standardization equates to rigidity and may be the polar opposite of flexibility, standardized terminology, communications, equipment, and tactics actually enhances response capability. Standardized emergency response resources are deployable across the nation, adding flexibility; similar to how military units are standardized and interchangeable. NIMS provides universal standards for certain equipment types such as fire engines, ensuring that the appropriate resource will meet the needs of the incident, regardless of from which fire agency it was ordered.

While some might consider resources to describe only materials and equipment, the doctrine defines resources to also include personnel.[73] One of the exceptional outcomes of NIMS and the standardization that it brought to the enterprise is the concept of credentialing and qualifying response personnel, ensuring responders providing mutual aid support from another jurisdiction have the "knowledge, experience, training, and

[73] Federal Emergency Management Agency, 7.

capability" to perform their assigned role as well as support the jurisdictions in need.[74] To achieve these credentials, FEMA provides an extensive NIMS training program comprised of both distance learning courses as well as traditional classroom and hands-on training.[75] Therefore, it can be presumed that an incident commander and other responders will have sufficient experience and training when assuming command or other leadership roles and be fully able to execute the required duties of those positions.

In order to operate together efficiently and safely, responders in these jurisdictions must also be able to communicate with each other, share information, and maintain situational awareness. NIMS's communications and information management principles describes data, voice, and digital communications technology; information sharing and common operating procedures; and addresses issues such as radio frequency management and training. It is similar to mutual aid planning in that NIMS recommends that neighboring jurisdictions or regional response partners engage in planning discussions and training activities to ensure their communications platforms are interoperable across agencies and jurisdictions.[76]

The command and coordination component of NIMS represents perhaps the largest portion of the doctrine, detailing "the systems, principles, and structures that provide a standard, national framework for incident management."[77] ICS, a tactical-level component of NIMS, provides frameworks for organizational management, information flow, and even incident action planning models.[78] Incident commanders arrive on-scene armed with the organizational structure, rules for managing and growing the organization, as well as the roles and responsibilities for various incident management positions.[79] Under the ICS

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[74] Federal Emergency Management Agency, 7.

[75] "Emergency Management Institute," FEMA Emergency Management Institute, accessed July 14, 2018, https://training.fema.gov/emi.aspx.

[76] Federal Emergency Management Agency, *National Incident Management System*, 53.

[77] Federal Emergency Management Agency, 19.

[78] Federal Emergency Management Agency, 20.

[79] Federal Emergency Management Agency, 20.

management structure, a single responding agency, or multiple agencies, may form a temporary organization and respond jointly, scaling the size of the organization to meet the needs of any type of event, regardless of the size of the incident. As is critical with larger events, multiple jurisdictions and disciplines quickly integrate together and operate in the same space without competing for resources or yielding their statutory authority.[80] These larger, more complex incidents, such as an MCI, will typically involve multiple jurisdictions sharing the same operational space. The unified command concept within NIMS and ICS prescribes the methods for multiple agencies to jointly determine priorities and incident objectives and leads the incident response together as a management team without being subordinate to other response agencies.[81] Using Laurel County again as an example: a prison transport bus overturns on a highway, resulting in numerous injuries. While the state police may have primary jurisdiction over highway accidents, local fire and EMS are also dispatched from Columbia and Johnstown due to the number of injured passengers who require medical attention. As the bus passengers are inmates, state prison has jurisdiction over their custody and care. All of the agencies in this example have a legal and statutory authority to respond, however none of them have primary authority or all the resources necessary to handle the entire incident.

In addition to the whole community emergency management model and the doctrinal, all-hazards management frameworks, FEMA also provides some general pre-incident planning companion documents worthy of note in the development of a prison MCI framework. The *Threat and Hazard Identification and Risk Assessment (THIRA) and Stakeholder Preparedness Review (SPR) Guide* provides guidance for identifying potential threats or facilities at risk, further complementing the previously discussed NIMS elements.[82] Assuming a jurisdiction adopts NIMS and plans for large-scale medical emergencies, these sources recommend pre-incident resource-planning considerations such

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[80] Federal Emergency Management Agency, 3.

[81] Federal Emergency Management Agency, 22.

[82] U.S. Department of Homeland Security, *Threat and Hazard Identification and Risk Assessment (THIRA) and Stakeholder Preparedness Review (SPR) Guide*, 3rd ed. (Washington, DC: U.S. Department of Homeland Security, 2018).

as stockpiling the types and quantities of medical and other supplies needed for an MCI in addition to the logistics requirements necessary for a jurisdiction's day-to-day, routine emergencies.[83] The *Journal of Emergency Medical Services* further recommends mass-gathering venues such as schools, stadiums, and even prisons develop and store their own medical caches to include a supply of backboards, as these are frequently in short supply.[84] Commercial MCI kits containing standardized supplies such as colored tarps and identification tags for patient sorting and triage are readily available; however, recommendations for these kits typically come from within the discipline or depend upon a jurisdiction's formal adoption of this particular method.[85]

In response to various shortcomings in mass-casualty planning and response, FEMA released *Operational Templates and Guidance for EMS Mass Incident Deployment* in 2012; *Fire/Emergency Medical Services Department Operational Considerations and Guide for Active Shooter and Mass Casualty Incidents* soon followed in 2013. As discipline-specific doctrinal guides, they recommend following the established doctrine and principles of NIMS, building upon and reinforcing ICS as the universally adopted command structure. These guides offer basic MCI pre-planning considerations for mass-gathering venues and recommend the establishment of ICS medical management positions such as the medical branch director and triage group supervisor to lead, direct, and task organize triage and treatment.[86] *Operational Considerations* further refines these issues by extracting a list of critical actions from NIMS and ICS into a single-page guide for the incident commander.[87] These guides reflect several critical MCI elements learned from

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[83] Federal Emergency Management Agency, *National Incident Management System*, 6.

[84] Heightman, "10 Tips to Help Gear Up for MCIs," 4.

[85] Heightman, 3.

[86] U.S. Fire Administration, *Operational Considerations*; U.S. Fire Administration, Federal Emergency Management Agency, and U.S. Fire Administration, *Operational Templates*.

[87] U.S. Fire Administration, *Operational Considerations*, 5.

active shooter incidents, such as establishing casualty collection points and evacuation routes, and introduces the Hartford Consensus THREAT model.[88]

In an effort to "create a protocol for national policy to enhance survivability from active shooter and intentional mass casualty events," a consortium of surgeons, government, military, and law enforcement leaders formed the Joint Committee to Create a National Policy to Enhance Survivability from Intentional Mass-casualty and Active Shooter Events.[89] Published as *The Hartford Consensus* and promulgated by FEMA, these tactical recommendations for MCI responders prioritize steps for reducing mortality due to the profuse bleeding common to active shooter incidents.[90] *Hartford* developed the mnemonic **THREAT** to summarize their recommended critical response elements:

T—Threat suppression
H—Hemorrhage control
RE—Rapid Extrication to safety
A—Assessment by medical providers
T—Transport to definitive care[91]

While responder safety is an overriding concern in any incident, hemorrhage control and transportation to medical care are the top recommendations provided by the Hartford THREAT response model. Patient movement is prioritized through triage, and a well-managed incident site facilitates expedited transportation to medical care, thereby improving overall chances of survival. It can be argued that all other elements of MCI planning and response stem from or support hemorrhage control and transport to care.

In summary, the doctrine is a strategic-level guide; however, as source documents for prison mass-casualty planning, it is a starting point but certainly not the answer. The official doctrine codifies the national vision for a unified, whole community approach to emergency planning and response. Under this whole community concept, all response

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[88] U.S. Fire Administration, 5.

[89] "The Hartford Consensus," American College of Surgeons, accessed August 26, 2018, https://www.facs.org/about-acs/hartford-consensus.

[90] U.S. Fire Administration, *Operational Considerations*, 3.

[91] U.S. Fire Administration, 3.

agencies work together to jointly plan, build response capabilities, and mutually support disaster response. The NRF and its supporting documents describe general planning outcomes and provide a management structure for incident response, allowing multiple agencies and disciplines to come together and execute a unified response. Although the doctrine takes an all-hazards approach, several desired performance outcomes described in these planning documents point toward general planning considerations worth further exploration and refinement.

First, MCIs are likely to be multiagency events, making the whole community concept even more relevant to prison mass-casualty planning. Simply engaging local and state planning partners in discussions about community emergency planning, available resources, and response capabilities as envisioned by the NRF starts the process of prisons joining the *whole community* described in doctrine. Addressing doctrinal issues such as threat assessments, interoperable communication systems, and medical supply caches works toward building local capabilities that support prison mass-casualty response. However, these are strategic planning concepts, not the organizational and tactical guidance necessary to developing a prison framework.

At the tactical level, the doctrine highlights management of the incident site through the employment of ICS, the doctrinal management model, as a critical response component. Adoption of NIMS and ICS serves as the point of entry for joining the emergency management community and provides the very basic knowledge, skills, and abilities necessary to apply these MCI specific guides. Authors such as Savilonis and others have documented the failure of the corrections enterprise to plan for emergencies, which in and of itself represents a major performance gap. Adopting the doctrine and applying the systems and management models that comes with it is perhaps one of the most significant desired performance outcomes due to the interdependencies with other desired outcomes.

B. ACTUAL PERFORMANCE IN MCI EVENTS

This section examines the performance and lessons learned from actual events and correlates them to specific doctrinal issues or identifies them as tactics or procedures that support doctrine. The national adoption of NIMS and ICS as doctrine and the resulting

standardization across the enterprise lends great credibility to post-incident analysis documents such as incident after action reports or formalized lessons-learned white papers; the issues these documents discuss are typically doctrinal as opposed to focusing on local policies and therefore have applicability regardless of jurisdiction. Additionally, FEMA, as the national authority on NIMS, publishes lessons learned documents that can be assumed to indicate nationwide performance trends that should be analyzed along with after action reports. Where the doctrine is typically broad and strategic in nature, the information extracted from these incidents and reports produces an organizational and tactical level of detail.

These incidents represent a cross-section of disasters and communities. Many other incidents were also studied in addition to these events; however, these specific events were well-documented and provided critical details necessary to illustrate deficiencies in sufficient detail to be useful in the development of a framework. These incidents include:

1. **1999 Columbine High School massacre, Littleton, Colorado.** Two students used firearms and homemade explosive devices resulting in 13 deaths and 160 injured.[92] Multiple buildings and ingress routes presented a challenging space for responders. The combination of fires and injuries from both the explosions and bullets required a tactical response, a bomb squad, fire, and medical. This incident has long become synonymous with active shooter incidents.

2. **2003 Station nightclub fire, West Warwick, Rhode Island.** Stage pyrotechnics ignited a fire in a crowded club causing 100 deaths and over 200 injuries; multiple EMS agencies deployed an estimated 60 medical units.[93] This incident has been the subject of several FEMA lessons

[92] U.S. Fire Administration, *Wanton Violence at Columbine High School*, USFA-TR-128 (Washington, DC: U.S. Department of Homeland Security, 1999), 1, https://www.hsdl.org/?abstract&did=446352.

[93] U.S. Department of Homeland Security, *Establishing a Staging Area*.

learned white papers highlighting both doctrinal successes as well as first responder deficiencies in managing the scene of a major incident.

3. **2008 Imperial Sugar Dixie Crystal Plant fire, Port Wentworth, Georgia.** An explosion and fire resulted in the deaths of eight employees and injured 36 others who required emergency transport by both ambulance and helicopter to surrounding hospitals.[94]

4. **2009 California Institution for Men (CIM) riot, Chino, California**. The Chino prison riot is by far one of California's worst prison incidents since a 1927 prison riot that resulted in the mobilization of California National Guard units.[95] In 2009, an inmate fight quickly turned into a full-scale riot after weeks of escalating tensions between inmate racial groups. Buildings burned and inmates fought with homemade weapons for several hours until prison staff regained control. Local and surrounding police and sheriff's departments responded to provide additional outside security while multiple fire and EMS agencies triaged 250 inmates. They treated 195 injured inmates on-site and transported another 55 inmates to local hospitals.[96]

5. **2012 Aurora Movie Theater shooting, Aurora, Colorado.** A single shooter assaulted moviegoers attending a midnight premiere, killing 12 and wounding 58, and 12 additional people suffered serious injuries while escaping.[97] While the overall response was successful, the massive influx of responder vehicles blocked traffic routes and prevented ambulances

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[94] Chatham Emergency Management Agency, "Imperial Sugar Dixie Crystal Plant," After Action Report, April 23, 2008, 1.

[95] "Five Folsom Riot Ringleaders Must Die on Gallows," *Healdsburg Tribune*, May 1, 1929.

[96] CNN, "250 Inmates Hurt, 55 Hospitalized after California Prison Riot."

[97] TriData Division, System Planning Corporation, "Aurora Century 16 Theater Shooting After Action Report for the City of Aurora," After Action Report, April 2014, 42, http://www.policefoundation.org/wp-content/uploads/2016/08/Aurora-Century-16-Theater-Shooting_AAR.pdf.

from accessing the incident site; some victims had to be transported by police car to awaiting ambulances.[98]

6. **2013 Washington Navy Yard active shooter incident, Washington, DC.** A contract employee of the military facility killed 12 people and injured three others.[99] Outside law enforcement initially experienced difficulties gaining access to the military base, followed by challenges in identifying the actual building where the shooter was located.[100] The responders who navigated through the main site of the incident reported that they were unfamiliar with the facility and the structure was complex and confusing.[101]

7. **2013 Boston Marathon bombing, Boston, Massachusetts.** Two brothers placed explosive devices near the end of the marathon route, killing three spectators and injuring 264.[102] Although the injuries of some victims were so severe that they required limb amputations, none of the casualties transported lost their lives.[103] The Boston emergency management community conducted extensive planning in preparation for this event and is credited with this successful outcome.[104]

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[98] TriData Division, System Planning Corporation, xii.

[99] Metropolitan Police Department, *After Action Report, Washington Navy Yard, September 16, 2013: Internal Review of the Metropolitan Police Department Washington, DC* (Washington, DC: Metropolitan Police Department, 2014), 3, https://mpdc.dc.gov/publication/mpd-navy-yard-after-action-report.

[100] Metropolitan Police Department, 15.

[101] Metropolitan Police Department, 11.

[102] Federal Emergency Management Agency, *Boston Marathon Bombings: The Positive Effects of Planning and Preparation on Response* (Washington, DC: U.S. Department of Homeland Security, 2013), 1, https://emilms.fema.gov/IS0235c/assets/BostonMarathonBombingsPositiveEffectsOfPreparedness.pdf.

[103] Vivian Lee, "Lessons to Be Learned From Three Mass Casualty Events - 2013 Boston Marathon Bombing, 2009 Aurora Movie Theatre Shooting, and 2005 Hurricane Katrina" (Master's thesis, Boston University, 2015), 3, https://hdl.handle.net/2144/16191.

[104] Federal Emergency Management Agency, *Boston Marathon Bombings*, 1.

Somewhat common to all incidents is the order in which response actions occur. As a method of highlighting potential gaps relevant to prison MCI planning and response, these events are presented in the context of alert and notification, the initial response actions and establishing incident command, extraction, triage, treatment and evacuation, and issues related to post-incident medical surge.

1. Alert and Notification

Like most emergencies, the initial notification that alerts responders typically occurs through the local 911 system via a phone call from a witness or non-responder, followed by emergency dispatchers activating an initial wave of first responders. The closest available resources arrive first, followed by additional resources as needed. For example, in the 1999 Columbine High School shooting, two nearby ambulances were dispatched from the initial 911 call, quickly followed by two additional EMS resources and a medical helicopter that was placed on alert.[105]

This process accelerates dramatically with the formal notification or declaration of an MCI, in many cases automatically triggering the deployment of a pre-determined set of resources or mutual aid from adjoining jurisdictions. Like the spreading ripples in a pond, EMS and other emergency resources farther and farther away from the incident are activated and either deployed to the incident site or placed on standby to ensure that neighboring regions recently depleted of EMS resources have sufficient coverage.[106] Among the first actions initiated by the incident commander or medical response supervisor is sizing up the incident to assess if the EMS resources currently on scene or en route are sufficient for the size and scope of the disaster. As dispatchers receive the subsequent 911 calls and aggregate additional details about the incident, or the responders on scene determine that the quantities and types of injuries exceed that pre-determined

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[105] Howard Mell and Matthew Sztajnkrycer, "EMS Response to Columbine: Lessons Learned," *The Internet Journal of Rescue and Disaster Medicine* 5, no. 1 (2004): 6.

[106] California Department of Public Health and Emergency Medical Services Authority, *California Public Health and Medical Emergency Operations Manual* (Sacramento, CA: Emergency Medical Services Authority, 2011), 9, https://emsa.ca.gov/wp-content/uploads/sites/47/2017/07/EOM712011_DMS.pdf.

threshold, the formal declaration of an MCI signals the activation of the regional MCI or disaster medical mutual aid plan.[107] The process may vary by state or region; in states such as California, designated regional disaster medical coordinators may contact adjoining medical response regions and coordinate additional medical resources to augment those available in the affected region.[108] While the specific trigger that launches these additional EMS resources varies by city, county, or region, generally this threshold is based on the capacity of the original EMS system. FEMA reports that gaps in recognizing that an MCI incident is actually occurring is a systemic problem among medical responders and dispatchers; they may be confusing an MCI with a surge in emergency calls or simply addressing the MCI as multiple individual calls without truly assessing the magnitude of the event.[109] Time is of the essence during a medical emergency; with these additional MCI resources, potentially deploying from outside of their usual response area, it is especially critical to initiate this successive chain of events as soon as possible.[110]

Of the MCI events surveyed, incidents on military bases and colleges that used an internal emergency phone number rather than the standard 911 noted delays in communicating the severity and scale of their MCI events to the outside 911-dispatch system. Following the 2009 Ft. Hood shooting, military officials changed or added internal emergency call handling with the intent of improving the response time of installation law enforcement to internal calls.[111] Military installations such as the Washington Navy Yard promoted the use of an internal 4-digit emergency number that alerted base security forces, however 911 calls were routed outside to the District of Columbia's emergency call center.[112] The Washington Naval Yard incident noted an eight-minute gap in incoming

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[107] California Department of Public Health and Emergency Medical Services Authority, 145.

[108] California Department of Public Health and Emergency Medical Services Authority, 8.

[109] U.S. Fire Administration, Federal Emergency Management Agency, and U.S. Fire Administration, *Operational Templates*, 69.

[110] InterAgency Board, *Improving Active Shooter / Hostile Event Response* (Charlotte, NC: The InterAgency Board, 2015), 9.

[111] Metropolitan Police Department, *After Action Report*, 22.

[112] Metropolitan Police Department, 22.

calls between internal and external call centers during the early moments of its active shooter incident.[113] Similarly, at the University of Texas at Austin, the campus emergency dispatch answered 911 calls placed from a campus phone, while the nearby Austin Police Department received 911 calls placed from cellular phones; the Austin Police Department would then in turn contact campus police.[114] At the time of its active shooter incident, the university's call system could only accommodate three lines and was quickly overloaded; it also lacked the capability to transfer additional call traffic to the outside 911 system.[115] While these internal calling procedures may have improved local response times for routine and small-scale emergencies, they likely delayed the response and coordination of outside law enforcement and hindered the transition from routine emergency to full-scale MCI response. As the incident develops, these communications problems lead to lapses in the common operating picture so relied upon by the incident commander and responding agencies.

2. Initial Response and Establishing Incident Command

As first responders arrive on scene, the incident commander assumes command, establishes the incident command post, and appoints responding personnel to fill critical positions under the ICS.[116] If multiple agencies are involved, doctrine specifies they may manage jointly following the unified command concept; this method allows them to maintain jurisdictional authority while still providing for a functional lead agency based on the type incident, which may change as the incident progresses.[117] For example, an active shooter incident may initially require a law enforcement lead to secure the incident site, and then transition to an EMS lead to manage the medical response as law enforcement

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[113] Metropolitan Police Department, 23.

[114] Metropolitan Police Department, 6.

[115] University of Texas at Austin Police Department, *Active Shooter / Suicide*, (After Action Report) (Austin, TX: The University of Texas at Austin, 2010), 6.

[116] U.S. Fire Administration, Federal Emergency Management Agency, and U.S. Fire Administration, *Operational Templates*, 15.

[117] Federal Emergency Management Agency, *National Incident Management System*, 22.

shifts to support role.[118] Fire and law enforcement traditionally take lead roles in these emergencies; however, the most recent doctrinal guidance encourages EMS agencies to improve their integration into joint operations.[119]

MCI events bring responders and potentially mobile command vehicles from any number of fire, EMS, and law enforcement agencies. Contrary to reportedly popular practices, simply parking the command vehicles from multiple agencies side-by-side is not a unified command.[120] As active shooter incidents became more prominent, updated guidelines on joint operations under a unified command often reiterate the need for a single command post.[121] Doctrine further suggests the command post should be large enough to accommodate the unified command staff and be located where it is accessible to all of the agencies involved. The city of Austin deployed their mobile command vehicle to the University of Texas at Austin in support of the 2010 active shooter response, and although the unified command was successful, the command post could not accommodate all the decision-makers who needed to operate in the command vehicle.[122]

Incident commanders may struggle to establish a unified command when the location of the incident, especially in secured facilities, potentially delays responders and separates the command elements, thereby preventing a joint response. The 2009 CIM riot in Chino, California, brought multiple responding agencies, many with their own mobile command posts.[123] The warden's conference room, located within the secure confines of the prison, often serves as the command post during routine prison emergencies; however,

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[118] Federal Emergency Management Agency, 25, 26.

[119] U.S. Fire Administration, Federal Emergency Management Agency, and U.S. Fire Administration, *Operational Templates*, 1.

[120] InterAgency Board, *Improving Active Shooter / Hostile Event Response*, 13.

[121] U.S. Fire Administration, *Operational Considerations*, 4.

[122] University of Texas at Austin Police Department, *Active Shooter / Suicide*, 10.

[123] Emergency Planning and Management Unit, *California Institution for Men Reception Center West Riot After Action Report* (Sacramento, CA: California Department of Corrections and Rehabilitation, 2009), 4.

previous emergencies rarely required coordination with outside agencies.[124] As such, existing emergency plans lacked direction on how to utilize the responding outside law enforcement or EMS providers who were now operating out of their own command posts in the prison parking lot.[125] The prison was fully engaged in disturbance control measures for several hours, clearing housing units, and attempting to regain control of the chaos occurring inside their secure perimeter while many available outside responders awaited further direction.[126] Prison planners clearly never anticipated an event of this magnitude or the need to integrate with outside agencies.

The challenge of conducting emergency response in restrictive or secured environments is not unique to prisons. The Washington Navy Yard is a gated military facility; its security protocols called for locking down the gates during security incidents.[127] During the 2013 active shooter incident, responding outside law enforcement from several agencies arrived at the military base only to find the gates locked and unstaffed; the assigned security personnel were all inside the base, responding the shooter.[128] Similar the CIM prison riot, the base command post secured inside the facility, completely isolated from the command posts established by the responding agencies outside of the facility.[129] Once these responders gained access to the base, they were further delayed by the unfamiliar layout and unclear building markings. Like most military facilities, building addresses consist solely of a three or four digit number that does not include a corresponding street name.[130] While attempting to respond, police encountered several civilians and asked them for directions, but despite working at the Navy Yard they

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[124] Emergency Planning and Management Unit, 20–22.

[125] Interview with anonymous prison official, Chino Riot, January 2018, January 2018.

[126] Emergency Planning and Management Unit, *California Institution for Men Reception Center West Riot After Action Report*, 30–37.

[127] Metropolitan Police Department, *After Action Report*, 26.

[128] Metropolitan Police Department, 15.

[129] Metropolitan Police Department, 18.

[130] Metropolitan Police Department, 27.

could not immediately recall the location of "Building 197"; police eventually located the correct building having observed people running away from it.[131] Communication issues can further exacerbate challenges of operating in a restrictive environment.

Interoperable communications has long been a basic tenet of ICS and functional communications in general are a requirement for first responders to operate safely and efficiently.[132] The Columbine incident documented multiple communications challenges; fire service could not communicate directly with law enforcement and the triage area turned out to be a radio "dead zone," blocking out most radio transmissions.[133] EMS responders from multiple jurisdiction arrived on scene unable to communicate on a common frequency; desperate to bridge the communications gap, many resorted to using cell phones.[134] Over a decade later, the report on CIM riot would report similar circumstance. Prison telephones were unaffected by the fires; however, the minimal number of phone lines in the command post could not keep up with the high volume of calls.[135] Staff also reported communications dead zones in several hard structures and were forced to exit those buildings to improve radio reception.[136] Additionally, CIM's radios were incompatible with those used by outside law enforcement and fire agencies, and the prison itself lacked sufficient quantities of radios to equip its own staff.[137] With no other option, it was necessary to employ runners to hand-deliver messages to the responders in the parking lot.[138]

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131 Metropolitan Police Department, 27.

132 Federal Emergency Management Agency, *National Incident Management System*, 50.

133 U.S. Fire Administration, *Wanton Violence at Columbine High School*, 33.

134 U.S. Fire Administration, 33.

135 Interview with anonymous prison official, Chino Riot, January 2018.

136 Emergency Planning and Management Unit, *California Institution for Men Reception Center West Riot After Action Report*, 68.

137 Emergency Planning and Management Unit, 22, 68.

138 Interview with anonymous prison official, Chino Riot, January 2018.

Another critical element of this phase is appointing response personnel to perform critical site management tasks and logistics functions.[139] Numerous incident after action reports and professional journals continually emphasize the critical importance of appointing a staging area manager when planning for or responding to an MCI. The *Journal of Emergency Services* cites issues that hinder ingress, egress, and vehicle movements among the top concerns in MCI site management.[140] The ability of EMS providers to quickly access the site, receive patients, and evacuate them to a hospital for advanced care further echoes the concepts behind the Hartford THREAT model and relies on unimpeded patient access and movement. The 2003 Station nightclub fire resulted in over 200 fire and related injuries and 100 deaths; an estimated 60 ambulances deployed on-scene in addition to the many first responder vehicles, fire apparatuses, and news vans.[141] Like most MCI events, this incident lacked a large parking area immediately adjacent to the fire. The initial wave of response vehicles quickly began blocking access to the site, hindering vehicle movement and preventing ambulances and other emergency vehicles from leaving.[142] The incident commander, a fire chief, did not establish an EMS branch command or the staging area manager needed to manage the scene as doctrine suggests; however, several experienced EMS personnel took it upon themselves to assume these positions early on and are credited with preventing a bad incident from unraveling into further chaos.[143] An EMS supervisor assumed the role of staging area manager and begin routing non-essential vehicles and those not currently assigned a response task off the incident site, organizing vehicles in the nearest available spaces, and directing each ambulance to enter the incident

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[139] U.S. Fire Administration, Federal Emergency Management Agency, and U.S. Fire Administration, *Operational Templates*, 16.

[140] Heightman, "10 Tips to Help Gear Up for MCIs."

[141] U.S. Department of Homeland Security, *Establishing a Staging Area*, 1.

[142] U.S. Department of Homeland Security, 1.

[143] U.S. Department of Homeland Security, *Incident Command: Filling Emergency Medical Services Command Positions*, Lessons Learned Information Sharing (Washington, DC: U.S. Department of Homeland Security, 2004).

site only when specifically called forward for patient transport.[144] By managing resource staging and movement, and maintaining open ingress and egress routes, emergency vehicles were are able to enter quickly, load patients, and exit the site immediately and without any further unnecessary delay. As the Station club fire demonstrates, in the early chaotic moments of responding to the incident these duties are easily overlooked, particularly when multiple disciplines are executing a joint response. These tasks are outlined in ICS position training, which also recommends the person performing this function wear a high-visibility clothing item like a safety vest so that arriving personnel can quickly identify them.[145]

In addition to staging responder resources, a separate staging area for media and a designated location to brief the press is both doctrinal as well as a recognized best practice.[146] Active shooter incidents are especially attractive to the media, but any MCI event is likely to draw media attention. During the University of Texas at Austin event, the media reportedly arrived at the same time as first responders.[147] Similarly, the lessons-learned white paper on the Station club fire noted the high quantity of media vehicles.[148] Placing them away from the incident is a recommended planning consideration for both safety and security, and further contributes to keeping ingresses and egresses clear.

3. Extraction, Triage, and Treatment

Removing the injured from danger, stabilizing the patient or mitigating further injury, and transporting them to medical care represent the priorities of effort in an MCI event. A casualty collection point provides a central location, removed from immediate

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144 U.S. Department of Homeland Security, *Establishing a Staging Area*, 1.

145 "ICS Resource Center," FEMA Emergency Management Institute, accessed December 30, 2017, https://training.fema.gov/emiweb/is/icsresource/; Greg Friese, "10 Tips for Ambulance Staging at Mass Casualty Incidents," *EMS1.Com*, September 19, 2016, https://www.ems1.com/mass-casualty-incidents-mci/articles/130540048-10-tips-for-ambulance-staging-at-mass-casualty-incidents/.

146 U.S. Fire Administration, *Wanton Violence at Columbine High School*, 36.

147 University of Texas at Austin Police Department, *Active Shooter / Suicide*, 9.

148 U.S. Department of Homeland Security, *Establishing a Staging Area*.

danger, for medical responders to triage patients and prioritize them for transport to local hospitals. These actions may be occurring concurrent to events or are dependent on incident stabilization if an active threat endangers responder safety, further delaying first responders from reaching the casualties until the threat is sufficiently mitigated. With the patients assembling at a central location, first responders can then prioritize treatment and transportation to hospitals. While the use of casualty collection points was endorsed as early as the 1999 Columbine incident, more recent discussions about active shooter tactics, such as the Hartford THREAT model, appear to have revived and placed new emphasis on this tactic.[149] Sometimes just getting the wounded to medical aid is a challenge.

The Aurora movie theater shooting illustrates the challenges of patient extraction during both an active shooter incident and a poorly managed incident site. Responding police officers arrived to an already crowded parking lot, leaving their cars unattended without regard to the medical response that would soon follow.[150] Haphazard responder parking restricted additional emergency vehicles such as ambulances from positioning close enough to the incident site to load patients, so the decision was made to load patients into police cars and civilian vehicles.[151] Of the 60 patients transported to local hospitals, only 20 were transported by ambulance.[152] Vehicle staging and incident site management clearly had a trickle-down effect, interfering with patient extraction and transport.

Prison incidents bring their own set of unique triage challenges. During the 2009 CIM riot, prison medical staff found themselves in a dilemma never before experienced by a California prison. The prison's medical clinic typically handles the relatively small numbers of injuries that result from the frequent inmate melees and yard disturbances; however, 250 injuries, with 55 requiring hospitalization, far exceeds the prison clinic's

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[149] U.S. Fire Administration, *Wanton Violence at Columbine High School*, 34; InterAgency Board, *Improving Active Shooter / Hostile Event Response*, 5.

[150] Vivian Lee, "Lessons to Be Learned from Three Mass Casualty Events," 29.

[151] Vivian Lee, 29.

[152] Vivian Lee, 30.

capabilities and staffing.[153] During the event, the prison clinic quickly filled to capacity; with an out-of-control riot in progress and several buildings engulfed in flames, the prison yard was unsuitable for triaging patients.[154] The overwhelmed medical staff needed help keeping up with the volume of serious injuries but outside EMS personnel could not (and likely would not) enter an active threat environment.[155] Life safety took precedent over security as a casualty collection point was established in the main parking lot beyond the secure perimeter, allowing first responders to access and triage the inmate-patients while local police and sheriff's deputies augmented prison staff with armed security.[156] Although this was a prison incident, responding fire and EMS agencies performed triage jointly with prison medical staff, led by one local responder assuming the role of EMS supervisor and directing patient movement.[157]

Establishing a triage area in the prison parking lot was an ad-hoc decision, hastily made to overcome operational challenges and employ all available resources. Similarly, in the 2003 Station club incident, medical responders from multiple agencies converged upon the incident and rapidly provided triage and treatment for nearly 200 casualties.[158] In a 2014 white paper, FEMA credits the success of the Station club response with the adoption of a standardized triage process and encourages other agencies to make this a part of their plan.[159] These scenarios reiterate how doctrinal concepts such as joint planning and the adoption of standardized processes improves response and likely saves lives.

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153 CNN, "250 Inmates Hurt, 55 Hospitalized after California Prison Riot."

154 CNN.

155 Interview with anonymous prison official, Chino Riot, January 2018.

156 Emergency Planning and Management Unit, *California Institution for Men Reception Center West Riot After Action Report*, 81.

157 Interview with anonymous prison official, Chino Riot, January 2018.

158 U.S. Department of Homeland Security, *Mass Casualty Incidents: Implementing a Standard Triage Process*, Lessons Learned Information Sharing (Washington, DC: U.S. Department of Homeland Security, 2004).

159 U.S. Department of Homeland Security.

Depending on the types and severity of the injuries, these incidents can be resource-intensive and quickly deplete medical supplies, which are critical for treatment and illustrate the need to prepare logistically as described in doctrine.[160] The California prison that found itself deeply embroiled in an extended riot and MCI event was also without the triage tags and colored tarps that had long become the standard equipment stored for just such an event, and had to rely on the local fire department to provide them.[161] Additionally, the prison ran out of other critical medical supplies and had to resort to using field-expedient methods such as crafting splints out of cardboard and tape.[162] In addition to stocking the tarps and triage tags, the report on CIM also suggested increasing the inventory of backboards, cervical collars, and stand-by operational supplies such as flashlights, as this event occurred just before midnight and required the establishment of a triage and treatment area in the prison parking lot.[163] Similar recommendations were expressed after Columbine, suggesting that the community invest in pre-positioned medical caches sufficient to support an active shooter MCI.[164] Heightman, too, asserts the need for a pre-positioned cache of MCI supplies.[165]

4. Medical Surge

According to the U.S. Department of Health and Human Services (HHS) government website, medical surge "describes the ability to provide adequate medical evaluation and care during events that exceed the limits of the normal medical infrastructure of an affected community."[166] A majority of the incident reports analyzed

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160 Federal Emergency Management Agency, *National Incident Management System*, 12.

161 Emergency Planning and Management Unit, *California Institution for Men Reception Center West Riot After Action Report*, 82.

162 Emergency Planning and Management Unit, 20.

163 Emergency Planning and Management Unit, 20.

164 U.S. Fire Administration, *Wanton Violence at Columbine High School*, 34.

165 Heightman, "10 Tips to Help Gear Up for MCIs."

166 Public Health Emergency, "What Is Medical Surge," accessed August 1, 2019, https://www.phe.gov/Preparedness/planning/mscc/handbook/chapter1/Pages/whatismedicalsurge.aspx.

for this thesis focused almost entirely on the emergency management aspects and do not explicitly identify medical surge concerns; however, numerous reports have been published on MCI medical response that specifically highlight medical surge planning issues. While NIMS does not expressly discuss or reference medical surge capacity, the HHS does: as part of their mission "to enhance and protect the health and well-being of all Americans," HHS provides detailed guidance to the hospital sector for medical surge preparedness.[167]

While the most severe injuries will likely arrive by ambulance, studies of past incidents have shown that following an MCI, many with non-life threatening or less-severe injuries are likely to self-evacuate from the incident site; they will either initiate self-care or seek out transportation and medical care on their own.[168] Resources such as medical staffing and treatment space quickly reach their limits, as the hospital must triage the walking wounded and the worried well in addition to the waves of the patients arriving by ambulance. Depending on the size and duration of the incident, injuries to responders may further extend the patient surge or create a second wave.[169] Whether the crisis involves an infectious outbreak or an MCI, HHS advises hospitals to plan and prepare for this sudden spike and develop staffing and logistics plans to sustain this elevated operational pace for up to 72 hours.[170]

Surge capacity is not only a critical disaster planning consideration for the medical community at large but it also presents a very real issue for prisons as well. Over 1,100 inmates participated in the 2009 CIM riot, resulting in 250 195 inmate-patients requiring varying degrees of medical attention, including 55 requiring hospitalization; however,

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[167] U.S. Department of Health of Human Services, "About Us," Government, U.S. Department of Health of Human Services, accessed August 2, 2019, https://www.hhs.gov/about/index.html; National Center for Injury Prevention and Control, *Updated in a Moment's Notice; Surge Capacity for Terrorist Bombings: Challenges and Proposed Solutions* (Atlanta, GA: Centers for Disease Control and Prevention, 2010), https://stacks.cdc.gov/view/cdc/5713.

[168] National Center for Injury Prevention and Control, *Updated in a Moment's Notice; Surge Capacity for Terrorist Bombings: Challenges and Proposed Solutions*, 2.

[169] National Center for Injury Prevention and Control, 2.

[170] National Center for Injury Prevention and Control, 21.

those were only the injuries treated during the event itself.[171] Not reported in the incident after action report, however, is the likely hundreds of injuries requiring medical attention after the major crisis subsided. After the outside first responders have departed the scene, prison medical staff must continue the exhaustive task of providing on-site care to this surge of inmate patients with varying degrees of riot-related injuries in addition to attending to the medical needs of patients now occupying clinic beds. All of this is in addition to the follow-up care required for days after the incident.

In summary, after action reports and studies of actual incidents demonstrate doctrinal concepts and further define optimal performance. Where the doctrine discussed in the previous sections provides very broad guidance for general, all-hazards planning and response, the details mined from after action reports yields concrete and detailed examples of MCI planning and response considerations that merit further investigation into their applicability to prison MCI planning. Incidents that occurred in highly restrictive environments are especially valuable, indicating numerous similarities to difficulties that responders may experience in a prison environment.

C. THE PRISON MCI PLANNING GAP

While MCIs present response challenges in any environment, they are especially difficult in a prison. The health, safety, and legal risks associated with prison disasters and the systemic failure of the corrections enterprise to plan for them is well documented; while the doctrine itself takes an all-hazards approach, supplying the basic systems, frameworks, and methods, it is incumbent upon each jurisdiction or discipline to interpret the doctrine and develop local tactics and procedures. This creates a paradox of sorts; the proverbial Catch-22 of emergency planning. While there is an expectation of preparedness across the corrections enterprise, very little exists to describe the threats for which prisons should prepare. Developing a prison MCI plan in the absence of threat-specific or prison-specific planning guidance is a high-risk proposition when the operational environment or problem space is not fully understood.

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[171] CNN, "250 Inmates Hurt, 55 Hospitalized after California Prison Riot."

This section completes the gap analysis by presenting a revised description of the problem space. The desired performance outcomes described in the doctrine and the actual performance outcomes identified from both prison and non-prison MCI events generates an entirely new perspective when viewed as a whole and framed in the context of an actual prison. This redefined problem space and its new vantage point yields a proposed prison mass-casualty–planning framework.

The physical plant layout of these enormous, secured facilities is central to this discussion (see Figure 1). California operates some of the largest prisons in the United States, each one employing hundreds of staff and housing thousands of inmates. Salinas Valley State Prison (SVSP) in Soledad, California, is similar in size to other California prisons.[172] Comprised of administrative offices, medical clinics, kitchens, warehouses, and industrial-sized shipping and receiving docks necessary to support multiple inmate housing units, prisons may occupy spaces even larger than SVSPs approximately .5-mile wide by .75-mile long footprint.[173] A single road leads up to the facility's main parking lot before branching off and circling the outer perimeter of the prison, which is wrapped in a lethal electrified fence and dotted with guard towers. Just inside, another road hugs the inner perimeter. The secured perimeter has limited vehicle access points leading to interior roads that allow slow-moving patrols or maintenance vehicles. Clusters of housing units form facilities, with access and movement between them severely restricted. Rapid traffic flow and interior vehicle access was not part of these facilities' design.

As a fixed location that routinely responds to small-scale medical emergencies, it can be assumed that prisons have plans and procedures in place to provide emergency first aid, while the more serious injuries merit a 911 call for emergency transportation to an outside hospital. These emergency calls may range from typical health issues and accidents to injuries stemming from acts of inmate-on-inmate violence. In the opening moments of an MCI event, it is essential that *someone* within the response organization recognize an

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172 "California State Prisons--Chronology."

173 "CDCR Prisons," California Department of Corrections and Rehabilitation, accessed October 23, 2017, https://www.google.com/maps/d/viewer?mid=1Rqm9AhvdecDDQ5dyYUnTCQZ_9TA.

MCI is occurring and communicates that information to the emergency medical response community.[174] This information has typically come from either the initial medical responders on scene who recognize the magnitude of the event and declares an MCI, or the 911 dispatcher who observes a sudden increase in calls. FEMA and others have noted delays and even hesitation to declare an MCI out in public, thereby slowing down the activation and deployment of critical response resources. When a prison is ground zero for an MCI, the prison staff placing those 911 calls have first-hand knowledge of the size and scope of the incident; they have an opportunity to communicate that information and trigger the automatic deployment of outside EMS resources, rather than wait for the EMS system to trigger this response on its own. Procedures for providing 911 dispatchers with the appropriate information, warning hospitals to prepare for the surge in inmate patients, and activating medical mutual aid resources are the types of issues resolved through the joint planning and whole community model prescribed in NIMS.

Once these resources arrive, they instantly create a site management problem. Many of the same conditions that lead to site management problems are visibly apparent when viewed in the context of a prison emergency. Depending on the physical layout of the prison and its particular procedures, a single ambulance or fire apparatus called to respond to routine emergencies will likely arrive at a specific entry point such as the facility's front entrance or an administrative building. Prison staff may guide that single ambulance or fire apparatus through a secured, double-gate to prison clinic medical, or perhaps staff may deliver a patient on a gurney to an awaiting ambulance outside the gates. As actual prison incidents have shown, there exists the very real threat of a major incident occurring at any time that may bloom into an MCI. Prisons are designed with security in mind; unfortunately, the same physical features necessary to prevent, restrict, or channel movement are contrary to the types of movement and responder access necessary during MCI response. The CIM incident brought an estimated 33 ambulances, an EMS truck, four medical engines, and police vehicles sufficient to transport nearly 100 law enforcement

[174] U.S. Fire Administration, Federal Emergency Management Agency, and U.S. Fire Administration, *Operational Templates*, 69.

personnel.[175] It is a reasonable assumption that a similar flood of vehicles swarming to this prison could quickly turn an already congested employee parking lot into an immovable traffic jam. Without a local plan to receive, stage, and direct these resources, the prison is relying on outside responders to accomplish tasks such as establishing emergency vehicle ingress and egress, maintaining traffic routes, and managing staging areas. Responders arriving for the first time at large facilities such as this will likely be looking for a visible address or building numbers to guide them; however, this massive complex has a single street address assigned to the primary administrative building situated in front, while the rest of the buildings have few if any discernable markings. With little or no direction, incidents have shown that responders will instinctively park closest to the incident with little regard to traffic flow, often with detrimental results. Such delays threaten both life and safety.

Further adding to this confusion is the sheer volume of resources likely to converge on the facility during an MCI.

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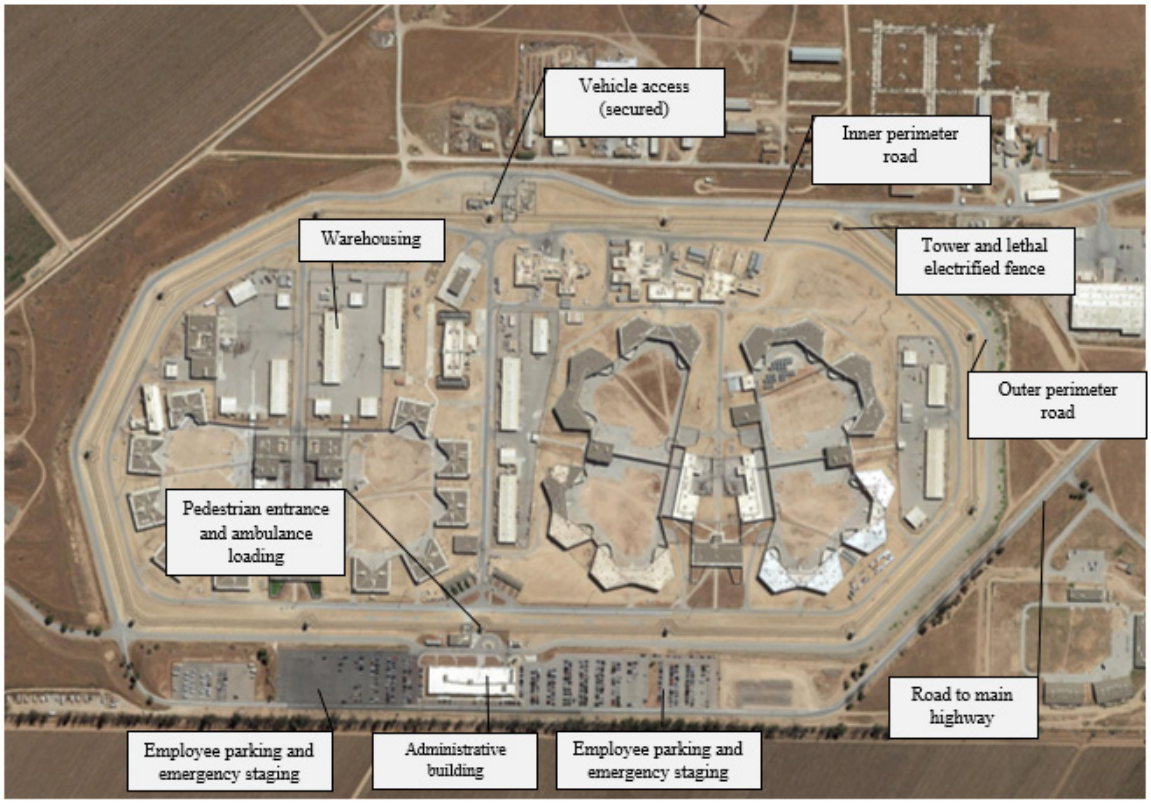
[175] Emergency Planning and Management Unit, *California Institution for Men Reception Center West Riot After Action Report*, 82.



Adapted from Google Earth, https://www.google.com/maps/place/Salinas+Valley+State+Prison/@36.4783956,-121.3756374,914m/data=!3m1!1e3!4m5!3m4!1s0x8092676e3f14b3ad:0xd97c25baefe4abbe!8m2!3d36.4792253!4d-121.3742578, accessed September 8, 2019.

Figure 1. Aerial Map of SVSP

Prison MCIs will likely also gain the immediate attention of the media, with one such incident documenting eight television news crews as well as contact from 10 newspapers and two radio stations.[176] While prisons may already have a designated media staging area, the SVSP example suggests the limited staging space for emergency vehicles may be in conflict with the designated media staging area.

Another potential resource-staging problem is rotary-wing air ambulances. Remote prisons with limited outside medical resources or any facility served by air medical services must also consider these resources, as numerous after action reports describe medical evacuation by helicopter. Due to overhead obstructions and space requirements such as

[176] Emergency Planning and Management Unit, 61.

safety setbacks required by the Federal Aviation Administration (FAA), emergency helicopter landing sites are not likely to be located within the secured perimeter.[177] Meeting FAA requirements for a designated helipad or even an emergency helicopter landings site represents another planning challenge with the potential to further compound the emergency vehicle staging problem if not addressed in local plans.[178]

Once these outside agencies arrive at the prison, doctrine prescribes the establishment of a unified command. As prior incidents have shown, agencies that have not trained together or prepared to operate jointly are likely to repeat the same unified command issues as seen in previous events. While SVSP's administration building is outside the secured perimeter, this is not the case with other prisons; those inside the secure perimeter are not easily accessible to other agencies. Doctrine advises emergency planners to consider the appropriate location for a command post with sufficient space and equipment to manage the event jointly and accommodate the agencies involved. The arrival of mobile command vehicles may further complicate matters, especially in light of physical space limitations and challenges to communication connectivity and interoperability.

In addition to managing the resource staging and movement outside of the prison, managing the medical crisis inside the prison presents a host of planning concerns. For example, a routine medical emergency stemming from inmate violence may involve two inmates or two groups of inmates engaged in either mutual combat or an assault. This immediately attracts the attention of the prison guards, who summon additional staff by way of whistles, alarms, or other methods such as radios. Responding officers approach the melee, deploying non-lethal weapons to gain compliance and commanding the fighting inmates to lie down on the ground; as the inmates begin lying down in the prone position, it is quickly evident that one or several inmates, now lying on the ground, are bleeding profusely. Extrication of inmate-patients from the prison yard, surrounded by inmates who moments ago were fighting, presents an active risk to the responders. Although the incident

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177 Federal Aviation Administration, *Heliport Design*, 150/5390-2C (Washington, DC: Federal Aviation Administration, 2012), https://www.faa.gov/documentLibrary/media/Advisory_Circular/150_5390_2c.pdf.

178 Federal Aviation Administration, 175.

appears to have stabilized for the moment and the guards have gained compliance, the violence can reignite quickly and without warning. Response procedures may include tactics such as a rescue circle, where armed correctional staff protect and encircle the wounded, allowing the removal of the injured inmates from the prison yard and evacuation to a clinic. If the severity of injuries requires a higher level of care, then the patients are moved to awaiting ambulances.

Active shooter response guidance such as the Hartford mnemonic THREAT prescribes hemorrhage control, extrication to safety, assembling the wounded at a casualty collection point or a single location to assemble patients for assessment and triage, and transportation to treatment.[179] Unlike active shooter incidents, which primarily consist of gunshot wounds, prison MCI injuries will generally involve stabbing and slashing or blunt force-striking trauma. However, the emphasis on extrication and treatment is generally the same.

Overseeing 50 or even 10 patients in a secured facility with limited access and movement while managing an active threat present a very complicated crisis. Unlike MCIs that occur in public areas, the persistent threat of prison violence and active combat may continue for hours as prison staff face the challenges of balancing responder safety with patient care. While the prison medical clinic typically serves as the casualty collection point for smaller incidents, the volume of injuries requiring hemorrhage control and immediate attention may necessitate a more serious response. Medical staff who generally operate in a clinical environment may find themselves transitioning to the role of first responder and triaging patients closer to the incident. Additionally, if the prison has not undergone formalized MCI planning, then a standardized triage process will also not likely be in place. MCI events can overwhelm prison medical staff and exceed available space in the prison medical clinic, yet the prison's security barriers and procedures often prevent outside responders such as medical personnel from working inside. Clinics within large facilities such as SVSP are deep within the complex, convenient for daily prison operations yet far from an exterior access point. Augmenting on-site medical staff with outside responders,

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[179] U.S. Fire Administration, *Operational Considerations*, 3.

while logical under doctrine, is extremely difficult to overcome in light of access and security concerns. Restricted site access and movement limitations also raises concerns about patient evacuation.

With the limited interior roads and minimal space to maneuver vehicles, large and restrictive facilities such as SVSP will also have to contend with the challenges getting the patients to the ambulances. While it may be possible to guide a single ambulance or other transport vehicles deep into the facility, an MCI will require the movement of multiple non-ambulatory patients. Guiding an ambulance inside usually presumes the active threat has subsided sufficiently to allow outside medical responders to enter, which may not be the case for larger, protracted events. As an alternate course of action, moving non-ambulatory patients to awaiting ambulances nearly three-quarters of a mile away requires either vehicles or a sufficient supply of rolling gurneys, as well as enough staff to complete the patient relay. If air medical resources deploy, the location of helipads may increase this distance even farther.

In addition to gurneys for patient movement, it is also critical to stockpile sufficient quantities of medical supplies necessary to support an MCI event. This was not only a noted deficiency in the 2009 CIM incident but also a recommendation identified in both doctrine and professional journals.[180] If conventional planning doctrine and professional journals recommends the establishment of MCI caches for fixed, mass-gathering locations such as schools and stadiums, this certainly merits further evaluation as a planning issue for prisons.[181]

The purpose of this thesis is to answer the question: How can a framework be developed that will improve prison mass-casualty planning and response? The overall planning gaps seen across the corrections enterprise, coupled with the lack of prison-specific planning guidance, indicates that a significant problem exists. To answer the research question, this chapter explored emergency management doctrine, professional

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[180] Emergency Planning and Management Unit, *California Institution for Men Reception Center West Riot After Action Report*, 82.

[181] Heightman, "10 Tips to Help Gear Up for MCIs."

publications, and actual MCI events with the intent of both validating the need for and developing a framework to improve prison MCI planning and response. The desired performance outcomes and critical MCI planning and response gaps extracted and extrapolated from these mostly non-prison sources, when viewed through the lens of the prison operational environment, presents a well-defined yet theoretical representation of the problem space. Each of these 24 planning areas identify multiple issues that merit further examination for developing the prison MCI planning framework.

1. Joint pre-incident planning
2. Difficulties interfacing with first responders
3. Notification, dispatch, and call routing
4. Recognizing and reporting MCI
5. Operating as a unified command
6. Integration of medical responders
7. Use of a functional, (joint) incident command post
8. Interoperable communications
9. Responders unable to access secure facility
10. Signage and clear building numbers
11. Emergency vehicle movement
12. Resource staging
13. Site management
14. Media staging
15. Triage areas and casualty collection points
16. Non-ambulatory patient movement

17. EMS access to internal triage areas

18. Ambulance movement, loading, and access

19. Medical caches and MCI supplies

20. Helipads

21. Standardized triage method

22. Role of prison medical staff

23. Active threat rescue tactics

24. Medical surge and credentialing outside medical personnel

If this restated problem and description of the problem space is accurate, then it both validates the need for a solution and provides the path forward for closing the gap.

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III. VALIDATING THE PROPOSED FRAMEWORK

In 2013, Islamic extremist brothers Tamerlan and Dzhokhar Tsarnaev placed improvised explosive devices (IED) near the finish line of the Boston Marathon, setting off one of the largest MCIs to occur on U.S. soil in decades.[182] A FEMA lessons-learned bulletin reported, "Both IEDs consisted of pressure cookers concealed in backpacks with low-grade explosives, nails, shards of metal, and ball bearings."[183] Positioned 200 yards apart and detonated in succession, the shrapnel blasts killed three spectators and injured 264.[184] Although the injuries of some victims were so severe that they required limb amputations, it is important to note that none of the casualties transported lost their lives.[185] This successful outcome was no coincidence; the Boston emergency management community spent the prior year conducting extensive planning and analysis in anticipation of several likely catastrophic scenarios.[186] Employing select elements of these same planning strategies can help solve the challenge of developing a prison mass-casualty framework.

This chapter validates and refines the data from the gap analysis by employing a modified Delphi technique with a panel of subject matter experts from the corrections field. The chapter begins with a brief introduction of the concept of exercise wargaming and an examination of the planning activities attributed to the successful outcomes from the Boston Marathon bombings. A narrative of the discussions and outcomes from the modified Delphi technique follows, which includes a discussion-based exercise with wargaming elements based on examples from the Boston incident. This chapter concludes with a presentation of the proposed prison mass-casualty-planning framework.

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[182] Federal Emergency Management Agency, *Boston Marathon Bombings*, 1.

[183] Federal Emergency Management Agency, 1.

[184] Federal Emergency Management Agency, 1.

[185] Vivian Lee, "Lessons to Be Learned from Three Mass Casualty Events," 3.

[186] Federal Emergency Management Agency, *Boston Marathon Bombings*, 1.

A. DOCTRINE, EXERCISE, AND PLANNING

Federal emergency management doctrine occupies a prominent role throughout this thesis, and it would be remiss to exclude mention of the doctrinal emphasis on training and exercise as a planning tool. In addition to the systems and models previously discussed, FEMA's emergency management doctrine also provides the guidance and methods for response organizations to exercise their emergency plans.[187] Ranging from low-stress events such as discussion-based exercises in a classroom environment to full-scale, live simulations involving role players and choreographed special effects, these events provide a venue to both train response personnel and test emergency plans. Having discovered any unanticipated planning weaknesses or gaps in training proficiency, the organization has an opportunity to correct those issues before the actual crisis occurs.

One such training venue, perhaps the most common, is the tabletop exercise. The tabletop exercise methodology practiced today is strikingly similar to the ages-old military practice of creating a scale terrain model or using maps and drawings to provide a visual depiction of the battlefield. Now commonly referred to as wargaming by the U.S. military, the modern approach effectively presents a model of the operational environment, which may even include the more modern operational constraints such as laws, regulations, and policy.[188] In one possible format, an exercise facilitator may guide participants through a turn-based scenario to rehearse response action and deconflict operations following an action-reaction-counteraction exchange.[189] These methods have proven to be invaluable planning tools for testing procedures, planning assumptions, and aiding decision-makers in developing solutions and predicting outcomes, as the Boston incident demonstrates.

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187 "FEMA Training," Federal Emergency Management Agency, July 6, 2018, https://www.fema.gov/training.

188 U.S. Army, *FM 6–0 Commander and Staff Organization and Operations* (Washington, DC: U.S. Army, 2015), 9–26.

189 U.S. Army, 9–26.

B. WHAT PRISON PLANNERS CAN LEARN FROM THE 2013 BOSTON MARATHON BOMBING

In preparation for the annual Boston Marathon, Boston's emergency management community had to resolve many planning and logistics challenges, including the issue of managing emergency medical response while contending with over 17,000 runners and 500,000 spectators crowding 26 miles of public streets.[190] Additionally, the marathon itself required enough medical responders to provide aid to an estimated 1,000 people during just the first six hours of the race.[191] The city's EMS personnel augmented the staffing in first aid tents along the race route in addition to managing their usual, daily load of emergency calls, ensuring continued EMS coverage of both the city and the event.[192] However, ambulance responses near the race path would have to negotiate numerous closed off streets packed with heavy crowds and somehow bypass the massive obstacle created by the marathon.[193]

Following the whole community approach prescribed in doctrine, state, local, and regional planning partners conducted several key planning activities in the years leading up to the 2013 Boston Marathon bombing. This included the development of a statewide communications interoperability plan to improve communications between law enforcement, fire, and EMS agencies, and regional MCI planning with hospitals and EMS providers.[194] To test these plans, they conducted a full-scale, 24-hour exercise involving over 50 partner agencies.[195] In preparation for the annual marathon, the planning team analyzed after action reports from previous year's events and the reports from those multiple joint agency exercises to identify specific issues that would need to be resolved. State emergency officials also conducted an intensive tabletop exercise specifically for the

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[190] Biddinger et al., "Be Prepared—The Boston Marathon and Mass-Casualty Events."

[191] Biddinger et al.

[192] Biddinger et al.

[193] Federal Emergency Management Agency, *Boston Marathon Bombings*.

[194] Federal Emergency Management Agency, 3.

[195] Federal Emergency Management Agency, 3.

Boston Marathon, reviewing the lessons learned from those previous events and wargaming various response scenarios.[196]

With streets closed along the race route and packed with spectators, emergency egress routes to specific hospitals had to be pre-determined along with the strategic placement of medical resources.[197] In the midst of a bloody and chaotic terror attack, first responders successfully evacuated 264 patients within 45 minutes. The prior communication exercises and detailed medical planning facilitated rapid and efficient patient distribution to hospital emergency rooms, reducing patient backlogs and delays in care. While no one could have predicted the horrific attack that lay ahead, the incredible response to this MCI is a testament to both the importance and utility of planning and wargaming.[198] The *New England Journal of Medicine* described these detailed planning efforts and the successful execution as a "planned mass-casualty event."[199]

As permanent, fixed locations, prisons can certainly benefit from following a similar approach and essentially "pre-planning" their MCI events. Just as wargaming requires an accurate representation of the operational environment, developing an accurate and detailed prison MCI plan requires a thorough understanding of the problem space. The Boston planning team relied on after action reports from previous year's events and multiple joint agency exercises in order to gain an understanding of their problem space; prisons, however, appear to generally lack this background information. Previous authors have discussed the lack of emergency planning efforts across the corrections enterprise, as well as the lack of readily available discipline-specific planning guidance. When taken into account along with the outcomes of prison MCI events and prison emergencies in general, it is highly probable that prison officials lack a clear understanding of the problem space. Presenting them with a framework that accurately reflects the problems to be overcome may bridge this gap.

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196 Federal Emergency Management Agency, *Boston Marathon Bombings*.

197 Federal Emergency Management Agency, 3.

198 Federal Emergency Management Agency, 1.

199 Biddinger et al., "Be Prepared—The Boston Marathon and Mass-Casualty Events," 1958.

To validate this model and the results of the gap analysis, an expert panel was presented with a survey, a discussion-based exercise, and a facilitated participant out-brief following a modified Delphi method.[200] The participants that comprised this expert panel consisted of eight correctional staff, ranging in rank from correctional sergeants to lieutenants and captains. Their current and previous positions included overseeing alarm response and alarm response training, developing emergency plans and procedures, as well as managing several emergency aspect of prison operations, including some who have served as the institution watch commander. Although these correctional staff collectively represent five California state prisons, all of them have previously worked at other state prisons throughout their respective careers; these experiences provided additional perspective and insight into a greater number of facilities, physical layouts, and planning challenges without necessitating a larger panel. In addition to the correctional staff, two emergency planners from the state office of emergency services also participated, one of whom holds several years' experience in prison emergency planning.

To gauge individual perceptions of MCI preparedness, and to introduce the expert panel members to the discussion topics ahead, panel members independently completed an initial survey. A brief scenario involving a prison MCI event served as the backdrop to frame questions about current plans, local planning efforts, and the participants' perception of current preparedness. Participants briefly described NIMS and ICS elements that they envisioned would be successful as well as those requiring substantial improvement based on participants' current perceptions of preparedness. The group's general consensus showed high confidence in their ability to respond to daily emergencies and less confidence in their ability to interface with outside responders and integrate those agencies into a larger prison emergency. Many indicated support for additional or increased collaboration with their local response agencies. This feedback was noted as potential topics to be included in the subsequent panel discussions.

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[200] Olaf Helmer-Hirschberg, *Analysis of the Future* (Santa Monica, CA: RAND, 1967), https://www.rand.org/pubs/papers/P3558.html.

In the second Delphi iteration, the panel participated in a facilitated discussion formatted as a tabletop, wargaming exercise (see Appendix B).[201] The gap analysis identified trends and issues that first responders have experienced during MCI events and examined those issues in the context of a typical prison, forming a theoretical model of the problem space. Similarly, the operational environment modeled for this exercise was also an actual state prison; participants were constrained by the current plans, procedures, and tactics staff would use to respond to an evolving prison MCI event, but they were encouraged to discuss methods to improve these constraints. To better illustrate the scenario, the panel was provided with a 60-inch-by-60-inch aerial photo of the facility (Figure 2) and visual aids that included model ambulances and a fire apparatus to move about the map while discussing potential solutions. Each phase of the MCI scenario presented several actions; panel members responded by describing their reactions to the crisis in terms of current plans and procedures. Throughout the discussion, panel members were asked follow-on questions about issues from the gap analysis and the feedback received from the initial survey. When the panel concurred that an issue was in fact a planning gap or a problem, the facilitator would encourage a discussion of potential solutions. Wargaming discussions were unconstrained by issues such as budget or current policies, and participants were encouraged to discuss any relevant experiences that might enhance the discourse.

[201] U.S. Department of Homeland Security, *Homeland Security Exercise and Evaluation Program (HSEEP)* (Washington, DC: U.S. Department of Homeland Security, 2013), 2–4.

Figure 2. Tabletop Exercise Map and Vehicle Props

C. RESULTS OF THE TABLETOP EXERCISE

The exercise modules included notification and initial response, unified command, resource staging and reception, and patient triage and extraction. The results of this exercise form a case study, revealing corrections-specific issues directly tied to the gap analysis. While the views, concerns, and recommendations of this panel may not precisely portray all prisons, they do provide an accurate snapshot similar to FEMA's lessons learned white papers that legitimizes many planning and response issues. This section summarizes the panel's key discussion elements and recommendations specific to the development of the framework.

1. Module 1: Notification and Initial Response

In the opening scenario, escalating tensions between rival inmate groups has resulted in increased incidents of inmate violence, eventually leading to a large-scale inmate riot that quickly escalates to an MCI. The discussion focused on how staff typically

react to such an incident, how they communicate critical information, and they determine that such an event may be an MCI during the initial response.

Small-scale disturbances and calls for an ambulance are routine occurrences in prisons, potentially reoccurring several times per day.[202] As such, both custody and medical staff are frequently summoned to respond without clear indication of the incident of which they are about to become a party. The panel reported that during these opening moments of an incident, information passed from the specific location of the disturbance to the watch commander might not readily include sufficient information to indicate that an MCI has occurred or is in progress. Depending on the extent of the injuries, some protocols call for the watch commander to dial the ambulance provider directly rather than use 911, effectively bypassing the situational awareness that triggers automatic mutual aid systems managed by local governments. Purportedly this is especially common at prisons located in smaller towns served by a single ambulance provider where staff habitually call the sole ambulance provider directly.[203]

Internal phone systems and non-standard dialing procedures appear to create another gap in the notification process. Similar to colleges and military bases with an internal phone network, some jails and prisons may have an internal emergency number that contacts a supervisor or a watch desk rather than the outside 911 system. The use of cellular phones further complicates this issue, as 911 calls placed from a cellular phone anywhere in California are likely answered by a central dispatch center operated by California Highway Patrol (CHP). Based on information the caller provides, the dispatcher forwards the call to a local dispatch center or sheriff's office closest to the emergency.[204] As prior incidents have documented, multiple methods for reporting an emergency presents openings where communication delays and lack of information can potentially delay the mobilization of ambulances from surrounding jurisdictions and hinder the establishment of

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[202] Interview with anonymous prison official, Chino Riot, January 2018.

[203] Interview with anonymous prison official.

[204] Matthew Glasser and Lolita Lopez, "'Do Not Call 911 on Your Cellphone,' CHP Insiders Say," NBC Southern California, accessed August 3, 2019, https://www.nbclosangeles.com/investigations/Dont-Call-911-on-Your-Cellphone-455686613.html.

a common operating picture among response agencies. This leads back to the issue of recognizing that an incident has evolved into an MCI.

None of the correctional panel members were aware of a specific threshold for declaring an MCI at their facility or within their region. Several panelists felt the threshold might be "five or more"; however, they were unaware of the source. This appeared to be a popular rumor among correctional staff and not tied to any specific training. While the panel agreed the watch commander would likely assume the role of incident commander and holds the responsibility for declaring an MCI, there are no specific policies or procedures that specifies actions to take during such an occurrence. As the situation develops and additional information is communicated up to the watch desk, the commander simply calls for additional ambulances. The lack of training and policy for managing and MCI represents a major response gap.

One of the prisons represented in this panel has formed a unique relationship with their local fire department that bears mentioning, as it presents a novel solution to bridging this gap and is supported by several doctrinal concepts. It was reported that during large incidents that require an outside medical response, the responding local battalion fire chief often assumes a role similar to the incident commander, assigning ambulances to specific hospitals and providing situational awareness to the regional disaster medical system. Generally, it is up to local first responders to provide this situational awareness to the regional disaster medical system and alert hospitals of an MCI event. This particular prison has come to rely on that local fire chief to assess their crisis, declare the MCI, and request MCI-specific resources. It was the panel's conclusion that this relationship and the roles assumed by the fire chief is a potential model or solution that merits further exploration. Additionally, most California prisons have an on-site firehouse; panel members suggested that the prison's fire chief or captain could have a role during large-scale medical emergencies, both declaring the MCI and directing outside medical resources.[205] According to the panel, medical staff should also have a more active role.

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[205] California Department of Corrections and Rehabilitation, "Job Analysis: Fire Captain, Correctional Institution," Career Opportunities, June 12, 2019, https://www.cdcr.ca.gov/careers/2019/06/13/job-analysis-fire-captain-correctional-institution/.

Panel members collectively agreed that disturbance control training occupies a prominent place in custody staff's emergency procedures training, but is lacking an integrated emergency medical component. When certain security threats or emergency conditions warrant a response, an alarm is activated and staff react according to their response protocols; this is not necessarily the case with medical emergencies. When prison disturbances result in serious injuries, as they often do, the response tactics must transition from disturbance control to emergency medical response. However, due to what they viewed as disparities in policy or enforcement of policy, the prison medical staff primarily serves as the prison's on-site clinical providers and not as first responders. Reportedly, the current practice is for correctional staff to extract the injured inmates from the prison yard and assist moving them to the clinic for further evaluation and treatment. While this may be sufficient for small disturbances, a prison MCI requires disturbance control measures and the activation of medical staff to perform both triage and medical management.

The panel discussed several solutions that would improve these gaps and suggested that alarm response procedures should also include staging pre-identified medical personnel along with their aid bags, additional backboards, and radios. In anticipation of the transition to emergency medical response, medical supervisors and gurneys would follow closely behind, ready to establish a triage. This shift from clinicians to medical first responders would also require the development of policies and tactics to integrate them into alarm response as well as require equipment purchases and training. The patient triage and extraction module later in the exercise echoed many of these similar issues.

2. Module 2: Unified Command

In the unified command module, the incident has escalated beyond the ability of the prison to respond. Outside fire and law enforcement agencies as well as multiple EMS providers are en route to the prison. The key discussion elements focus on those issues associated with establishing a unified command in a secured facility and working jointly with response partners.

In the previous module, the panel confirmed agency-wide adoption of ICS; however, the members generally resist the idea of operating jointly under a unified

command. They agree with the doctrinal intent, method, and necessity of a unified command approach; however, they felt that outside response agencies lacked sufficient understanding of their prisons to integrate into their incident. The panel uniformly agreed that increased joint planning efforts and training with outside fire and EMS agencies is necessary to overcome these deficiencies and prepare for major incidents. Until this occurs, multiple factors hamper the establishment of a unified response, including the limitations of their current incident command posts.

Describing the locations designated as the command posts for their respective prisons confirmed a clear disparity in locations, size, and accessibility from prison to prison. A conference room in an administrative building frequently serves this purpose during emergencies, while others may use a classroom. These are reported to have worked well for smaller, short-duration events but in most cases would not accommodate more than a few additional personnel, making multi-agency coordination difficult. In many cases, the facility's design places the command post within the secured perimeter, which further limits accessibility by outside responders. In a few rare cases, the training building with classroom space sits in a publicly available location such as the prison parking lot. These rooms or facilities are typically not equipped to serve as a command post, as they generally lack critical features such as additional phone lines to accommodate the command staff or data connections for their computers. Cell phones often augment the limited connectivity, later creating additional communications problems as staff rotate and take their assigned phone with them.

Panel members also mentioned that as a method of assuring radio communications between the prison and outside agencies, it has become standard practice for a responding fire department to hand off a radio with the watch commander upon arrival. They anticipate that an agency-wide radio upgrade, currently planned, will resolve these types of interoperability issues.

3. Module 3: Resource Reception and Staging

In the resource reception and staging module, a massive wave of resources has descended upon the prison, bringing multiple ambulances, fire apparatus, and law

enforcement vehicles, as well as several news vans from local networks. The scale of the incident has also necessitated the deployment of air ambulances. This module examines the task of organizing and managing the incident site.

Responding to the scenario, panel members identified an outside parking lot as the location where incoming emergency vehicles are directed to stage while awaiting direction from prison staff. The panel explained that there is no established policy or procedure for receiving a large quantity of resources for an MCI or any other major type of incident. They anticipate staff will instinctively receive the first arriving fire apparatus or ambulance in the same manner as a smaller, routine incident by directing them to the patient loading zone or in the direction of the housing unit in peril. In their collective experience, staging does not truly occur until several emergency response vehicles arrive and begin to restrict vehicle movement, at which point the watch commander will appoint a staff member to direct traffic. In the absence of a staff member performing the role of staging area manager, one of the first responders may begin organizing the staging area and directing traffic until a prison staff member assumes these duties. The panel promptly recognized that the quantity and types of arriving emergency response vehicles, parked around the employees' vehicles, would easily exceed the limited capacity of the parking lot and prevent employees from leaving until after the incident was over. Additionally, the street design and traffic flow into and around this particular prison would likely lead many vehicles directly to a guarded entrance where most vehicles are directed to U-turn and route back to the employee parking lot and staging area. This may be a simple maneuver for cars and service vehicles; however, large vehicles such as a fire apparatus will unavoidably block this single ingress and egress point while attempting to maneuver back to the staging area, further restricting emergency vehicle movement. The limited vehicle space also forces all emergency vehicles to "stack up" in the parking lot in single lanes, restricted to first-in, first-out movement with little or no room to bypass.

Using the aerial photo and model vehicles, the panel war-gamed potential solutions to the vehicle staging and ambulance route problems. First, they re-created the current staging area and reiterated the specific problems that required resolution. Through some trial and deliberation, they recommended that the original location be used solely to stage

media and identified an alternate location to stage incoming first responders. This new model for traffic flow and staging provided sufficient space, allowed emergency vehicles to drive straight in, rather than turn around at the gate, and eliminated the first-in first-out channeling that occurred with the currently designated staging area. The panel also discussed additional solutions such as ways to resolve the confusion of arriving at an unfamiliar location. The prison could adopt a strategy similar to large facilities that operate a supply warehouse or a shipping and receiving area with loading docks that may have signs directing delivery trucks to a designated ingress route. With clear signage and marked routes that direct first responders along designated emergency ingress and egress routes, the responders could also bypass congested employee parking areas filled with passenger vehicles.

In discussing the key point of this phase further, the panel assured that all prisons have pre-identified staging areas for media and emergency vehicles as well as helipads for life-flight response. Participants could easily recall their own prisons' designated staging locations; however, having just completed the wargaming exercise, they were also quick to caution that their staging areas have not been analyzed or tested in the context of a major influx of emergency vehicles. Discussing their experiences at other prisons, participants also reported incidents of first responders being easily confused about where to report or how to navigate through a facility when responding to a routine emergency call. While some facilities have a guard station to receive incoming traffic, most have a road that leads to an open parking lot similar to the SVSP example in Figure 1. The panel commented that prison design centers on security and limited ingress and egress points, which is why current prison facilities have not taken into account these emergency-planning considerations. Awareness of these issues may be improving, as several members highlighted a recent success story about identifying this problem during the design of a new facility.

As of this writing, California State Prison, Sacramento, is planning construction of a larger, centralized medical clinic, which will also replace several smaller clinics throughout the prison. Any inmate going to an outside hospital for emergency medical care will be processed through this single point into an awaiting ambulance. The construction

plans originally included a road with a T-shaped intersection for the patient loading zone, requiring all arriving ambulances to stop and back-in to a set of double doors. While this may be acceptable for a single patient pickup, it repeats many of the patient-loading problems experienced during MCI events. Officials recognized the design flaw early in the construction process and replaced the T-shaped intersection with a large, circular loading zone. During an MCI, ambulances will be able to stage for patient pickup similar to the taxi line at an airport, thereby eliminating unnecessary delays. This serves as a prime example of how facility design should take into account emergency planning considerations. It was later reported that this prison is also considering signage along the ambulance routes as a direct result of this thesis and the wargaming exercise.

4. Module 4: Patient Triage and Extraction

In this module, the incident has grown beyond the prison's ability to treat patients, requiring the establishment of a triage area and the extraction of multiple non-ambulatory patients to ambulances and life-flight helicopters. As the closing module, this module continued several previous discussion topics such as interoperable communication and resource staging and inquired about triage methods and caches of MCI supplies. This module concluded with brief discussions about fatality management and medical surge issues.

With alarm response procedures still playing a central role in the scenario while also transitioning to emergency medical response, earlier discussions about incorporating medical responders into alarm response procedures led to lengthy discussion about response tactics as well as gaps or inconsistencies in policy. Similar to the earlier wargaming exercise, panel members used a dry-erase board to illustrate and discuss tactics. First, they demonstrated disturbance control measures and tactics currently used to rescue and remove injured inmates or staff from an active threat environment such as a prison yard. Next, citing their collective experience and current active shooter response training calls for a joint police and medical response, they discussed how this model could be adapted to prison emergency medical response. Building on the earlier recommendations to stage medical staff and supplies automatically when the alarm sounds, they discussed

how this group of medical responders could follow behind the disturbance control team without prompting and shorten to transition to medical response. This proposed response model, however ideal, faces several roadblocks.

Some assume that the medical personnel's reluctance to leave the clinic out of concerns for their personal safety is the primary underlying issue behind the earlier reported disparities in medical response policy and procedures; after all, it is a high-risk environment and the potential always exists for violence to flare up again. Others assert that medical and custody staff always train separately at their prisons; yet others still have developed joint drills and employed their own methods in actual incidents. Whether the issue is personal safety or personal preference, they all agree that there is no single, uniform policy to drive response tactics across all facilities. It is also evident that these local procedures have an unexpected trickle-down effect on the selection of triage areas.

As the panel explained, standard procedures immediately following a riot includes maintaining a certain separation between the two opposing groups, as tensions remain high and attempts at retaliatory attacks are common. In the moments immediately following a violent riot-turned-MCI, even the wounded cannot share a single triage area, necessitating the establishment of two separate areas. While clinics can triage a few injuries, they lack the space of a hospital emergency room and have limited beds. Facility design, security levels, and the distance between the site of the MCI and the clinic can further compound the problem. With the problems clearly identified, the participants were challenged find a solution.

Admittedly, the watch commander/incident commander selects these areas based on immediate need, convenience, and without specific regard to the proximity of the ambulances. While custody staff showed a clear preference for triaging on the prison yard rather than transporting injured inmates to the clinic, they also grudgingly mentioned that inclement weather conditions are very common occurrences that require shifting to an alternate venue. They concurred that designating an available, large indoor space such as a gymnasium as the primary triage area would provide shelter from the elements and enough space for both factions without splitting up the medical staff between two separate locations. However, in the context of the exercise scenario this would require a lengthy

patient move due to the distance from the incident. Shifting to questions about managing the movement of non-ambulatory inmates for triage and then to ambulances or a helicopter, prison layout and available resources were again, key factors. For the prison used in this scenario, moving multiple non-ambulatory inmates strapped to backboards would quickly exhaust the minimal supply of gurneys in the clinic, requiring four or more staff members to carry the remaining patients or load them into any available vehicle capable of moving them. While the prison does have access to a helipad, it is located on a hilltop over one mile away next to a sister institution. If this prison's MCI event musters medical air resources, moving patients to the helipad will present additional logistics challenges. As a policy recommendation, the panel suggested that emergency planners should examine the prison as a series of smaller elements due to these prisons' enormous size, designating triage areas and staging supplies for each housing unit. Spreading out resources and quickly shifting them as needed allows the watch commander/incident commander to decide which areas to use based on the situation, providing greater flexibility than relying on a central location. With some additional planning, they could also incorporate patient evacuation into these areas.

An incident of this size has the potential to quickly exhaust or exceed the ability of prison medical staff to provide treatment, resulting in a large number of medical transports to outside hospitals. The prison in this scenario is located nearly adjacent to a sister institution and additional medical staff are just minutes away; however, many other prisons are not nearly as fortunate. For the discussion on medical surge capacity, panel members were asked to assume this prison had no near counterpart and they were forced to rely on local resources. The CIM incident was mentioned as an example of how the department managed this problem before, and the panel was asked to provide their opinion of that event's outcomes. They agreed that this situation presented a difficult and uncomfortable paradox; outside medical providers cannot come in, and inmates should not go out. When the CIM incident occurred, a majority considered moving inmates outside of the secure perimeter and performing joint triage in the prison parking a risky choice, and still criticize that decision to this day; however, in doing so, prison managers may have stumbled upon the solution to connecting EMS responders with patients and augmenting prison medical

personnel.[206] The panel cautioned against making this a standing policy without further analysis; however, they all agreed that when an incident of this magnitude occurs, the incident commander must make decisions, and prioritize access, patient movement, safety, and security.

The panel also suggested that MCI plans include considerations for patient tracking and staff accountability after they depart for the hospital, as this task is especially challenging during a crisis. Injured inmates are loaded into ambulances along with a supervising officer, or an assigned officer follows the ambulance in a chase vehicle. With multiple hospitals receiving patients, the ambulance's destination may be undetermined when it is departing, or it may change en route as hospitals prioritize based on the extent of the injuries. The panel discussed their experiences with having a single staff member assigned to track patients and staff during these major events and nominated specific staff positions to assume this role automatically during an emergency. This led to a follow-on discussion about pre-designating other emergency roles; for example, a staff member whose daily duties include purchasing and procurement could have a pre-designated ICS role as the logistics chief, with those emergency duties delineated in the employee's job description or duty statement. During an emergency, that staff member automatically transitions to their ICS role without waiting for the incident commander to direct them. This method could streamline the initial activation phase and alleviate numerous planning and response issues by placing a trained staff member in that response role.

The exercise concluded with brief recap, the outcomes of the wargaming sessions, and the panel's recommendations. Panel members were given the opportunity to provide any last-minute feedback or further discuss any issue they felt remained unresolved. Although the panel was convened for purpose of conducting research, the panel members commented that similar wargaming exercises complemented by full-scale training scenarios should be instituted in policy and conducted regularly. They found this event to be a very useful planning tool, especially when it came to developing solutions with staff from other prisons and comparing best practices.

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[206] Interview with anonymous prison official, Chino Riot, January 2018.

5. Panel's Review of the Proposed Framework

The following framework, developed from the research findings and outcomes of the tabletop exercise, was presented to each of the panel members individually for comment and as a final check on consensus.

1. A Policy formally adopting the National Incident Management System (NIMS) and the Incident Command System (ICS). If such a policy does not currently exist, developing a policy that formally declares an agency's adoption of federal standards is an ideal starting point for developing local emergency plans and bringing a facility into compliance. It also serves as a justification to support training and other requirements.

2. ICS and NIMS training plan. Identify general NIMS and ICS training requirements for all personnel, as well as position-specific training requirements.

3. Establish in policy annual training requirements.

4. Initiate pre-event planning discussions with local fire, EMS, law enforcement, emergency management agencies, and representatives from the disaster medical system. If applicable, invite representatives from air ambulance providers.

5. Provide a facility tour. Orient outside responders to the facility. Review facility access procedures, patient-loading procedures, and directions to the facility medical clinic or ambulance loading area.

6. Identify or propose areas for emergency vehicle staging. Solicit input from local response agencies about their specific space requirements.

7. Identify location of incident command post. Notify partner agencies of relevant policies or security protocols, such as the prohibition of firearms, knives, and personal cell phones on facility grounds.

8. Unified command. Discuss how a unified command will be implemented.

9. Joint training opportunities. Suggest joint participation in future training and exercise events. Host joint exercises, and invite outside agencies to participate in facility exercises.

10. Resource reception, staging, and integration. Develop plans and procedures to receive and stage emergency vehicles. Review physical layout, parking lots, traffic patterns, access points, and available space.

11. Include the assignment of a staging area manager in emergency plans. Ensure staging area manager will have communications with the incident command post and is easily identifiable to arriving emergency vehicles. (high-visibility safety vests or other method of identification)

12. Ingress and egress routes. Uninterrupted, one-way traffic routes with single points of entry and exit that avoids congested parking lots.

13. Designated staging area. Sufficient size to stage and maneuver appropriate quantities of emergency vehicles.

14. Signs and road markings to indicate routes. Install permanent signs to alert responders to staging areas or ambulance routes; make available temporary signage and traffic cones to designate temporarily route traffics or parking areas.

15. Update facility road designs to make maximum use of roundabouts or circular pick-up zones, replacing T-shaped intersections that require ambulances to back-up for loading.

16. Emergency helipads. If the facility is served by air ambulance services, consider potential emergency landing sites. Ensure predesignated sites do not conflict with emergency vehicle staging or traffic routes. Consider

constructing permanent helipads; consult with Federal Aviation Administration for construction standards.[207]

17. Media staging. Separate from resource staging and away from the incident command post. Assign a public information officer or other staff to liaison with the media.

18. Communications interoperability. Engage local planners and ensure the facility is included in local public safety radio interoperability plans.

19. Ensure the facility's radios have the ability to communicate via local public safety channels, to include emergency medical services.

20. Ensure communications plans account for prison areas with poor radio reception.

21. Notification and common operating picture. Timely notification of response partners and the activation of mass-casualty resources are critical; include the agencies and methods of notification in facility policies and procedures.

22. Declaring an MCI. Determine the local MCI threshold and procedures for declaring an MCI; develop facility policy or procedures for activation of MCI plan.

23. Hospitals. (determine local procedures or) Establish policy to notify area hospitals of the facility's MCI.

24. Mass-casualty mutual aid. Include a directory of mass-casualty mutual aid resources in the facility emergency plan, and establish a process for requesting mutual aid.

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[207] Federal Aviation Administration, *Heliport Design*.

25. Facility incident command post.

26. Accessible. Location allows outside agencies to access the command post without passing through security barriers, or establish procedures to bring these agencies inside.

27. Appropriate space. Large enough to accommodate a unified command consisting of local response partners.

28. Equipment. Sufficient workspace and phone lines to accommodate the unified command structure.

29. Predesignate key ICS positions by assigning appropriate facility positions and staff to ICS roles. (For example, the facility Watch Commander will also serve as Incident Commander.)

30. Update employee duty statements. Develop a policy to include these emergency responsibilities in employee's duty statements/job descriptions and ensure employees receive ICS training for their emergency roles.

31. Triage area, casualty collection point, and ambulance loading areas. Consider capacity and capability of facility medical clinic and location in relation to housing units and yards. Consider access for outside fire and EMS personnel.

32. Triage areas. Designate areas for patient triage; consider dividing combatants into two triage separate areas. If designated area is outdoors, consider inclement weather plan.

33. Casualty collection point. Designate a location to assemble patients for transport, if separate from triage areas.

34. Ambulance loading area. Consider if using a separate casualty collection point.

35. Develop policy to provide security for medical staff.

36. Patient movement plan. Plan to move non-ambulatory or impaired patients from yards and housing units to triage and ambulance loading. Consider distances, modes of transport, vehicle access.

37. Plan to move non-ambulatory inmates

38. Helipad loading. Develop procedures for moving patients to helipad.

39. Patient tracking. Develop tracking and reporting procedures to maintain accountability of both inmate patients and staff.

40. Standardized triage method. Establish in policy and staff training plans a standardized triage method. Consult with local fire and EMS and consider adopting local or regional triage standards.

41. MCI medical equipment. Determine requirements and maintain sufficient types and quantities of medical supplies appropriate for the facility's size and population. Establish these minimums in policy.

42. Stock common supplies such as colored tarps, triage tags, and other supplies as per the adopted triage method.

43. Develop a cache of MCI medical supplies to include a surplus of backboards and braces.

44. Medical staff as responders. Review medical staff's current emergency response role.

45. Alarm response. Consider adding medical responders to alarm response procedures; stage with medical bags and backboards in anticipation of follow-on medical response.

46. Joint training. Train medical staff jointly with custody staff.

47. Medical surge. Plan to accommodate the surge of post-incident patients over the next 12–24 hours.

48. Staffing. Emergency plans to include Develop a plan to evaluate staffing needs

49. Credentialing and privileging of outside medical providers. Develop agreements with local medical providers in advance, or establish a process to quickly credential and privilege outside medical personnel.

50. Test procedures annually with a full-scale exercise

The results of the Delphi panel indicate consensus with no dissenting opinions. More so, the panel expressed an interest in implementation and voiced concerns about overcoming department culture to adopt new tactics and supporting training. While those are topics for another day and another thesis, the results of this Delphi method validated the research findings.

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IV. CONCLUSIONS AND RECOMMENDATIONS

This thesis asks, "How can a framework be developed that will improve prison mass-casualty planning and response?"

Despite the existence of a mature system of doctrinal theory and structures to both guide the emergency management discipline at large and facilitate the rapid integration of responders from fire, law enforcement, EMS, and other disciplines, the corrections enterprise has somehow remained mindfully absent from these planning efforts. While some within the emergency management community may assume prisons are somehow immune from the effects of major disasters, in reality this lack of inclusion and failing to plan often results in the prison becoming its own disaster.[208] Several authors have demonstrated this emergency planning and preparedness gap to be a systemic rather than localized problem, potentially threatening an at-risk population of millions as well as risking the safety of the communities in which these facilities reside.

Of the many potential emergency scenarios that a prison or jail may face, MCIs are especially daunting. The challenges of overcoming a sudden surge of serious or life-threatening injuries while managing waves of outside first responders descending upon the facility, operationally restrained by ongoing violence, restricted site access, and the inability to communicate are further magnified by the aforementioned lack of planning and preparedness. Prior authors have suggested additional governance and federal oversight as one potential solution for discipline-specific guidance. However, limited data sources on prison incidents and the absence of corrections-specific doctrine often leaves correctional emergency planners with little direction for how to achieve desired performance outcomes or even what those outcomes should be. Federal Homeland Security agencies, such as the U.S. Fire Administration, have spearheaded the development of doctrinal planning guidance for the fire services and emergency medical disciplines while the corrections enterprise has no such federal counterpart. Making available corrections-specific planning

[208] Savilonis, "Prisons and Disasters," 14, 25.

tools such as an MCI planning framework is a critical first step toward bridging the prison emergency planning gap.

A. SUMMARY OF FINDINGS

An accurate depiction of the problem space is critical when developing an emergency-planning product such as a plan or framework. In the absence of sufficient prison-related data, the desired performance outcomes and lessons-learned data from non-prison MCI events can be applied to the correctional operational environment to create a theoretical model. Employing a wargaming exercise with subject matter experts to gain their feedback and validate the accuracy of the model yields a list of correctional-planning issues that forms a prison MCI planning framework. The research and exercises that led to this outcome also produced several notable observations.

First, the gap in doctrine only tells part of the story. The limited-availability correctional emergency management doctrine and incident documentation, when coupled with the lack of a strong, government advocate to lead the development of such doctrine, does in fact leave open a large doctrinal void with little to guide the corrections enterprise. The lessons learned documents published in the aftermath of the 9/11 attacks suggested the need for a national system to unify emergency planning and response across disciplines. NIMS is not a plan; it provides the high-level concepts that guides strategic and operational planning across the homeland security enterprise, while ICS provides the methods and frameworks for operational and tactical-level response. The universal theme of "function jointly to build response capability" echoes throughout these documents with the expectation that response agencies will gain an understanding of their partner agencies, reflected in their own policies, procedures, and tactics. Similarly, it is incumbent upon correctional emergency managers to apply this doctrine to the operational environment with input from local planning partners. The planning gap experienced by the corrections enterprise may actually stem from a lack of understanding of the problem space.

In the Boston Marathon example, the Boston planners developed a deep understanding of the problem space by reviewing information such as after actions reports from previous marathon events, and testing their assumptions in multiagency wargaming

exercises. The successful mass-casualty response and manhunt that followed required multiple response agencies at the local, state, and federal levels with the ability to communicate and coordinate response actions. One can only imagine the tragic outcomes that could have occurred if each of these participating agencies had developed a response plan without coordinating information from their partner agencies. Boston should not be viewed as an exceptional outcome, but rather the standard that NIMS was intended to achieve.

Conversely, correctional emergency managers may simply not know just how much they do not know having functioned in a sort of planning vacuum for so long. In the course of their research, authors Savilonis and Robbins documented the lack of planning and preparedness for major disasters across the correctional enterprise and the often-tragic outcomes that result when major disasters strike. While Robbins was primarily concerned about protecting the rights of this vulnerable group (prisoners), and Savilonis made the case for additional governance, neither specifically identified the root cause of this planning gap, leaving open the potential for future research. Correctional facilities will likely have some form of an emergency plan or a series of documented emergency procedures; however, the actual extent of those plans can vary widely and may not account for a major crisis such as an evacuation or an MCI. The expert panel participating in the modified Delphi process initially expressed confidence in their organization's ability to handle a major incident. As the exercise progressed, presenting the panel with additional details based on gaps found in the research, that confidence was somewhat replaced with concern; they agreed their facilities were not fully prepared for the scenario as presented. The initial interpretation was misread as a planning gap that could be simply overcome through more thorough planning activities. However, with several prisons represented by the panel, it was evident they all had approximately the same level or lack of preparedness for the issues at hand. When presented with the true nature of these planning issues and the panel members understood the problem, they easily worked out viable solution. *More planning* does not necessarily equate to *proper planning*; a thorough understanding of the problem space is clearly a critical element of developing a viable emergency plan.

Second, the outcomes of this research reinforce the validity of the use of wargaming and exercises as planning tools. While exercising emergency plans is recommended in doctrine, the Boston Marathon by itself stands as a testament to wargaming as a method of testing facts, challenging assumptions, and resolving operational problems.[209] Additionally, this researcher's personal experience with the use of wargaming, both as a military staff officer and as a homeland security exercise planner, certainly provided some personal bias as to the efficacy of this tool for developing a well-scripted response. In developing the MCI framework, it would have been far easier to present each subject matter expert with a survey or other tool via email to validate the importance of the proposed framework issues and gather their individual comments on the existence of critical planning gaps. However, doing so would have produced results tepid at best, further reinforcing the problems of planning without a clear understanding of the problem space. The wargaming venue instead allowed them to build on one another's ideas, triggering memories of past emergencies, and reaching back into their collective experiences to produce a product with a far greater level of detail. This forum also revealed additional critical planning issues tangential to those initially presented that a simple survey or interview might not have yielded. Replicating this type of active engagement is a critical step in testing assumptions and refining emergency plans. At the conclusion of the modified Delphi process, the panel reviewing the results of the exercise collectively agreed that the proposed prison mass-casualty planning framework is an applicable and useful tool that correctly identifies planning gaps that they now recognize exists within their own facilities. This experience further highlights the issue of understanding the problem space.

B. RECOMMENDATIONS

Without adequate emergency plans or active engagement with the response community, prisons are more akin to a public safety customer than a response partner, which creates multiple vulnerabilities. Therefore, prisons must take an active role in their own emergency preparedness, engage their public safety partners, and graduate from

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[209] Department of Homeland Security, *National Preparedness Goal*, 13.

customer to participating member of the emergency management community. The following recommendations provide additional organizational and tactical guidance that may be useful in the implementation of the prison MCI framework. Central to these recommendations is the adoption of NIMS, as this is the strategic-level guidance provided by the federal government for all emergency response organizations.

1. **Adopt NIMS as official policy.** A correctional agency's formal promulgation of NIMS as official policy is a critical first step, initiating their membership with the emergency management discipline.

2. **Adopt the whole community approach.** In preparation for what will inevitably be a multi-agency, multi-discipline crisis, organizational changes should begin with adopting the whole community approach prescribed in NIMS. Prison emergency managers should initiate those outreach and planning discussions with local response partners such as EMS providers, fire, law enforcement, and county and state emergency services agencies to discuss capability building and initiate joint planning discussions. Touring the prison and discussing issues such as ingress and egress routes, patient loading areas, and physical space requirements for emergency vehicle staging allow these response agencies an opportunity to help identify potential shortcomings and assist the prison with developing solutions early in the planning process. These initial meetings may lead to additional working groups to discuss issues such as communications interoperability, equipment standards, and even response tactics. For example, both FEMA and the expert panel recommended adopting a standardized triage method. Adopting the same method used by outside medical responders can create a mutual aid relationship that potentially allows these responders to augment prison medical staff and assist with patient triage.

3. **Develop an understanding of patient thresholds.** These joint planning activities will also assist correctional emergency managers with

developing an understanding of patient thresholds, communicating or declaring an MCI, hospital notifications, and other factors that may automatically trigger the deployment of additional regional medical resources. Documenting details such as response times and the mutual aid request process to access regional MCI response resources is critical to local planning.[210] While smaller EMS systems might be less likely to own a cache of medical supplies or an MCI trailer, major metropolitan regions such as San Francisco, for example, have invested in an MCI bus capable of transporting 22 patients.[211] While this is an exceptional resource example, the existence of any resource is a moot point if neighboring jurisdictions are unaware that they exist or lack the necessary agreements or processes to request these resources when needed.

4. **Mark ingress and egress routes and install signage to direct emergency vehicles to designated locations.** When those requested resources do arrive, the facility must be prepared to receive, stage, and integrate them into the prison's ICS organization. Larger facilities especially should consider marking the ingress and egress routes and installing signage to direct arriving emergency vehicles to designated locations such as the staging area and the patient loading area.

5. **Pre-identify specific prison positions appropriate for ICS roles.** Operationalizing emergency procedures as part of the prison's day-to-day routine shifts these responsibilities away from the incident commander and assigns them to staff as immediate response actions. Staff can be pre-identified to assume these emergency response roles as well. Identifying staff for deployment and assigning them to ICS positions is typically a

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[210] Heightman, "10 Tips to Help Gear Up for MCIs," 4; Federal Emergency Management Agency, *National Incident Management System*, 12.

[211] Eli Wirtschafter, "Disaster Prep, SF-Style: Giant Ambulances Built from Old Muni Buses," KALW Local Public Radio, accessed June 10, 2018, http://kalw.org/post/disaster-prep-sf-style-giant-ambulances-built-old-muni-buses.

tactical decision managed by the incident commander at the time of the incident; however, this represents another opportunity to operationalize emergency response procedures. The expert panel expressed an interest in the concept of pre-identifying specific prison positions appropriate for pre-designating certain ICS roles. When the prison activates their ICS organization, these personnel automatically deploy in their designated ICS roles to oversee those tasks that historically create problems such as site management and vehicle flow. Wherever possible, plans should identify positions within the prison that have a clear linkage between the day-to-day duties and the ICS position duties. For example, a logistics manager that oversees warehousing and receiving might be an ideal fit to assume the role of staging area manager. This allows for responding staff to be specifically trained for these roles in advance of the incident, and resolves many issues associated with site management.

6. **Develop plans for patient movement and adopt new tactics to integrate medical responders into prison alarm response procedures.** In addition to operationalizing these response elements, the framework also recommends agencies develop plans for patient movement and consider adopting new tactics that integrate medical responders into alarm response procedures. Prison MCI response often begins with disturbance control measures, later followed by the mobilization of internal medical personnel to perform first aid.

7. **Enact disturbance control procedures that include automatic deployment and pre-staging of prison staff and develop procedures for rapidly transitioning to emergency response operations.** The expert panel recommended disturbance control procedures should include the automatic deployment and pre-staging of prison medical staff and developing procedures for rapidly transitioning to emergency medical response operations. Recommendations for supplementing this tactic includes the pre-positioning of medical bags, backboards, and MCI kits

with triage tags and colored tarps, as required by local triage methods. This rapid deployment tactic speeds the transition to medical response and establishes the triage area in anticipation of receiving patients. Including medical staff in the planning and early deployment also provides a lead-in to the patient movement plan.

8. **Develop a tactical plan for patient movement.** Developing a tactical plan for patient movement is itself a major planning exercise, and another key opportunity for prison staff to work out solutions through wargaming. Larger facilities with interior corridors that restrict vehicle access and movement will need to develop local best practices for transporting multiple non-ambulatory inmates, taking into account the locations of triage areas and ambulance loading sites. Prisons serviced by air ambulance providers must plan for even longer transport distances, as both designated and emergency helipads will likely be located far from fixed structures and overhead utility lines, and in some cases beyond parking areas. A logistics plan to support patient movement should also be considered, factoring in sufficient quantities of backboards and gurneys to keep on hand, their appropriate storage locations for rapid access deployment, and even identifying additional staff to facilitate this movement to the triage area.

9. **Designate a gymnasium or other indoor space for patient triage.** Finally, designating a gymnasium or other indoor space for patient triage, as opposed to the prison yard, removes the patients and staff from the immediate danger of an active incident as well as inclement weather. It is also advisable to separate the opposing groups of inmates into two triage areas, despite the strain this places on medical staff. Remediating this potential staffing shortage by selecting a triage area accessible to outside medical responders, or developing procedures and mutual aid agreements to bring those responders inside the facility are options to be considered when wargaming and developing local tactics.

C. IN CLOSING

Most, if not all, of the lessons learned documents reviewed for this thesis involve emergency response agencies that in theory were very likely to have adopted NIMS early rather than later. When responding to an incident, the responders arrive to an often-unfamiliar location and do their best to overcome unexpected operational challenges and evolving threats. In the rush to save lives, mitigate suffering, and protect property, and despite their collective training and experience, they inevitably overlook critical details involving doctrine or tactics. Even skilled professionals sometimes get it wrong.

As several authors have demonstrated, the corrections enterprise lacks this experience and has a long way to go in order to keep pace with its local partner agencies. However, as permanent, fixed locations, correctional facilities have the clear advantage of time; rather than rely entirely on the "just in time" features of ICS, these facilities have the ability to mirror the successes of incidents such as the Boston Marathon and pre-script their next disasters. Achieving this level of preparedness in the absence is no simple task. At the very least, the application of this framework can help these correctional organizations jump-start their MCI planning. In the long term, this will inevitably expose them to more elements of the doctrine and potentially lead to a doctrinally compliant system of policies, procedures, and tactics for not just prison MCIs but their entire emergency management program.

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APPENDIX A. SURVEY QUESTIONS

Thank you for your participation in this survey. Your individual responses are entirely confidential and will not be associated with any personally identifiable information; they will be merged with other participant's responses in order to identify general trends and beliefs about CDCR's planning and response. This is first of three research activities that will be used to improve mass casualty planning. Please be as complete as possible, you may attach additional sheets if necessary.
If you do not wish to participate, please notify the Senior Emergency Management Coordinator.

Background: In 2009 CDCR experienced a major incident at a Southern California facility that involved nearly 1,200 inmates, resulting in 9 staff injuries and 249 inmate injuries; 54 inmates were transported to local hospitals. 7 buildings were damaged by fire and rioting inmates, and over a dozen local agencies responded.

Possible discussion points to consider when answering the questions below:

Alarm response	Communications
Mass casualty response	Management of medical emergencies
Medical staff	Unified Command post
Incident management	Incident command system (ICS)
Integration with outside first responders	Resource staging

1. If your local institution were to experience a major, mass-casualty producing incident today, similar in size and scope to the 2009 incident, do you feel that your current plans and procedures have prepared your institution for such an event?

2. Please describe any joint planning activities you have participated in with local first responders, or any other emergency preparedness activities have you been a part of in the last 12 months:

3. If your local institution experienced an event like the one described above, please briefly describe the areas or issues that in your opinion would go well?

4. Can you briefly describe the areas or issues that in your opinion would require substantial improvement, or points of failure

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APPENDIX B. TABLETOP EXERCISE

Emergency Planning & Management Unit
and
The Center for Homeland Defense and Security,
US Naval Postgraduate School

Prison Mass Casualty Incident Planning
Strategic Tabletop Exercise

Situation Manual

July 2018

Preface

Mass casualty incidents (MCI) can occur quickly and without warning, straining a community's ability to respond and provide emergency medical care. The mission of medical first responders quickly shifts from doing the greatest good for the individual patient to doing the greatest good for the greatest number of people. Improperly managed and the crisis can spread from the incident site to the treatment site as hospitals become overwhelmed with the sudden surge in patients.

Some would argue that a prison mass casualty incident is no different from any other MCI. Modern office buildings, high-rise structures, and school campuses may have increased security measures in place that restrict movement and public access, measures that may appear prison-like to the uninitiated. In reality, a prison's multiple layers of physical security, restricted access by even first responders, and especially the safety issues inherent in interacting with dangerous convicted felons add additional levels of complexity to an already chaotic and complex incident.

The 2009 California Institution for Men incident occurred in a city with a large population center and a robust emergency medical response, and yet it stretched the capabilities of CDCR and the twelve outside agencies that responded. Had this occurred in one of the many other prisons located in a remote community with significantly less medical resources, the outcome might have been much different.

By its very nature an MCI will instantly become a multi-agency response, requiring the coordination of fire, EMS, and possibly even local law enforcement in concert with the affected prison. A whole-community approach to training can mean the difference between a well-orchestrated response and a scene that deteriorates into further chaos. Your participation is tangible evidence of CDCR's commitment to ensure public safety through collaborative partnerships that will prepare it to respond to any emergency.

The information obtained from today's exercise will be used to significantly improve public safety through the development of a prison mass casualty planning framework applicable to any jail or prison facility.

Schedule / Agenda

8:00 – 8:30 a.m.	Welcome, Introductions, Research In-Brief
8:30 – 10:00 a.m.	**Module I – Notification and Initial Response** Scenario, Questions, and Solutions
10:00 – 10:15 a.m.	**Break**
10:15 – 12:00 p.m.	**Module II – Unified Command** Scenario, Questions, and Solutions
12:00 – 1:00 p.m.	**Lunch Break**
1:00 – 1:45 p.m.	**Module III – Resource Reception and Staging** Scenario, Questions, and Solutions
1:45 – 2:00 p.m.	**Break**
2:00 – 3:00 p.m.	**Module IV – Patient Triage, Extraction, and Other Issues** Scenario, Questions, and Solutions
3:00 – Until Complete	**Summary and Out-Brief**

Introduction

Background

While most incidents of inmate violence are limited to relatively small skirmishes that end as quickly as they begin, these events can escalate in a matter of seconds. In 2009 a riot erupted at the California Institution for Men in Chino, California. What started as a small fight between several inmates quickly spread across the prison as more inmates joined the battle. Over the next several hours, correctional officers would attempt to regain control as buildings burned and over a dozen outside agencies responded. With over 1,100 inmates involved in the riot and several buildings on fire, responding firefighters refused to enter until the prison was secured, allowing the structures to burn uncontrolled while a plan was formulated. Recognizing that the incident would not be stabilized soon, fire fighters sprayed water on several burning buildings from outside the secured perimeter. Meanwhile, rescue operations were mounted to locate staff that had barricaded themselves inside their offices as protection from the rioting inmates.

Normally a triage area would be established on the yard to quickly identify, stabilize, and move the more critical cases to ambulances outside the prison. Less critical cases are treated in a small prison clinic which on this day was quickly becoming overwhelmed. As injured inmates were removed from the fray, the medical staff were limited in their ability to safely triage and sort the wounded this close to the chaos of the riot still in progress. They had seen their share of inmate violence, but never before had they experienced a prolonged incident with so many serious injuries. With no safe location to triage and treat a growing number of injuries, the decision was made to relocate the injured inmates outside of the secure perimeter and establish a triage area in the prison parking lot. This would allow the local first responders to assist with triage.

When the incident finally ended, 185 inmates were treated on site and 54 were transported to local hospitals for treatment. Although there were several critical injuries, there were no inmate fatalities.

While this was the likely the worst incident in CDCR history, it was not the department's last MCI event. The Emergency Planning and Management Unit, with the United States Naval Postgraduate School Center for Homeland Defense and Security, has embarked on an ambitious project to develop an MCI planning framework applicable to any prison or jail facility.

An analysis of mass casualty literature from a variety of sources to include FEMA planning documents, mass casualty and active shooter after actions reports, professional journals, and CDCR incidents revealed numerous common issues that are likely to occur during MCI events. By anticipating these shortfalls and developing solutions specific to each institution, we can "pre-script" our incident response and overcome these common failures.

Purpose

The purpose of this exercise is to validate these unanticipated problems and develop solutions and policy recommendations. The information collected today contributes to research being conducted under the supervision of the Center for Homeland Defense and Security, United States Naval Postgraduate School.

Scope

The institution presented in this scenario serves as the backdrop for discussion; however, this exercise is not specific to a particular institution. Emphasis for this exercise is on improving agency coordination, identifying conflicting policies, integrating capabilities, and resolving known roadblocks to MCI response. Developing solutions to the identified problems are more important than finite details of the scenario.

Exercise Structure

The California Department of Corrections and Rehabilitation Prison Mass Casualty Planning Strategic Exercise is an interactive facilitated exercise. Participants will respond to the following three distinct modules:

- Module I Notification and Initial Response
- Module II Unified Command
- Module III Resource Reception and Staging
- Module IV Patient Triage, Extraction, and Other Issues

Participant Responsibilities

- **Subject Matter Experts (SMEs)** serve as the exercise 'players' who will respond to the situation based on their experience, training, and knowledge. SMEs are encouraged to participate in the process of making recommendations that will improve MCI planning and response.
- **Facilitator** lead the discussion and provide situational updates. They also provide additional information and resolve questions, as required.

Assumptions and Artificialities

A number of assumptions and artificialities may be necessary to complete the scenario in the time allotted, or in order to evoke a specific discussion. During this exercise, the following apply:

- The scenario is plausible and events occur as they are presented.
- There are no "hidden agendas" or trick questions.
- All SMEs/players receive information at the same time.

Exercise Guidelines / Participant Briefing

There is no set solution! Varying and different viewpoints are expected. This is intended to be a safe, open, stress-free environment. Participants should be all be aware of the following:

- Your participation is voluntary.

- We will be discussing emergency situations that some may find stressful; if you feel this exercise will cause you stress or discomfort, or at any time you begin to feel anxiety you may be excused from further participation.
- Your responses are being documented for research purposes and may be used to develop solutions that will improve MCI planning and response.
- There will be no audio or video recording.
- Photography of the participants is not allowed.
- Your responses will be anonymized and not attributed to you.
- No identifying information will be maintained after this exercise.
- Participants are asked to respect participant anonymity and not discuss the materials or participant responses outside of the exercise.
- Your position or your organization's policies do not limit you. Give your professional recommendation or make your best decision based on the circumstances presented.
- Decisions are not precedent-setting and may not reflect your organization's final position on a given issue. This is an opportunity to discuss and present multiple options and possible solutions.
- Assume cooperation and support from other responders, agencies and the private sector.
- The situation updates, written materials and resources serve as the basis for this discussion, but you are not limited in the source of documentation you can use to develop your recommendations. It is asked that you credit any sources so they can be researched further after the exercise.

Module 1: Notification and Initial Response

California State Prison, Sacramento (CSP-SAC) is a Level IV institution situated on 882 acres in Folsom, California. It has twenty-four (180 design) housing units and an administrative segregation unit. Like most of CDCR, is it also surrounded by a lethal electrified fence.

Over the last few months, tensions on Facility B (Level IV General Population) yard have been steadily increasing between two inmate groups. Two violent assaults have recently occurred, and Institutional Gang Investigators have warned of the high potential for retaliatory attacks. A full lock-down of the yard is being considered until the tension issues have been identified and resolved.

Late Saturday afternoon, just prior to dinner recall, a fight between inmates from two different housing units erupts, quickly escalates, and spills out onto the yard area as more inmates join the fight. An alarm is sounded and a Code 3 Response is requested. As officers attempt to gain control, additional skirmishes break out in several housing units. Inmates clog toilets, burn mattresses, and vandalize anything and everything. Control Booth Officers quickly exhaust their less lethal ammunition.

Staff attempt to establish skirmish lines and begin rescuing staff and injured inmates. Adjoining facilities had already released for the evening meal and are adjusting to provide support.

As institutional inmate fire crews (per Department Operations Manual) cannot respond to a disturbance, Folsom Fire Department has been dispatched. Upon their arrival, FFD observes that an active riot is still in progress and refuses to enter a chaotic and unsecured yard. They proceed to stage outside the secured perimeter while waiting for assurances that the incident is stabilized and secure enough for firefighters to enter. The Fire Captain wants to know if he can respond with his inmate firefighters.

Questions

Based on the information provided in Module 1, please answer the following questions. These questions are not meant to constitute a definitive list of concerns to be addressed; based on your expertise, please share any additional requirements, critical issues, and decisions that should be addressed at this time.

1. What notifications occur (WHO is notified?) and HOW are they communicated? (radio, phone, emails?)
2. How is emergency medical aid requested? 911 or direct call to local EMS system? Who makes that call?
3. Is there a policy, or procedure that requires 911 instead of directly contacting local EMS? Has that been an issue?
4. What are the initial actions when a major disturbance occurs? (Walk-through alarm response procedures)
5. Does your medical staff participate in the alarm response?
6. How are medical staff equipped and trained for alarm response?
7. Are vehicles such as ambulances and fire engines escorted inside? (How do they find their way around unfamiliar facilities?)
8. Does your Department follow ICS?
9. Do staff wear ICS vests or other method of identification to outside agencies?
10. Do you conduct position-specific ICS training?
11. What is the threshold for an MCI in your area?
12. Who declares an MCI?
13. Are hospitals notified that an MCI has occurred? How?

Module 2: Unified Command

It becomes clear that this incident has escalated significantly and has or will exceed the prison's ability to respond. Inmates are causing widespread damage and starting additional fires. Smoke is billowing out of two housing units and there are small fires on the yard. Many inmate identification cards were lost or destroyed and mattresses burned. Several shots have been fired in the vicinity of the riot and at least one inmate may have been killed, but reports are conflicting at this time. Activation of the CDCR Department Operations Center has been initiated by the Emergency Planning and Management Unit to coordinate additional state resources.

Responding local law enforcement agencies includes the California Highway Patrol, Sacramento County Sheriff's Office, Folsom Police Department, and a coordinator from the Cal-OES Law Branch. Folsom Fire and several other fire and EMS agencies are starting to arrive with engines and ambulances.

Questions

Based on the information provided in Module 2, please answer the following questions. These questions are not meant to constitute a definitive list of concerns to be addressed; based on your expertise, please share any additional requirements, critical issues, and decisions that should be addressed at this time.

1. How is unified command established with outside responders?
2. Where is your command post located?
3. Is it accessible by outside agencies?
4. Is it large enough to accommodate multiple agencies?
5. Does the command post have sufficient communication lines to handle a large emergency?

Module 3: Resource Reception and Staging

A television news van has already arrived at the front gate, having redirected from their planned appearance at a nearby park; a helicopter is also circling the facility, but in the developing darkness it is impossible to tell if it is news media, law enforcement, or air ambulance. The PIO responded by cell phone, he was at home when the incident started but is currently driving back to the institution and should arrive in the next 20 minutes. Additional news crews can be expected at any moment

Fire trucks, ambulances, and CDCR vehicles are crowding the parking lot and starting to block roads. Many of these ambulance and fire truck operators have never been to the prison before and there is some confusion on where to go.

Two life-flight helicopters are reported to be en route.

Questions

Based on the information provided in Module 3, please answer the following questions. For any negative responses, discuss potential solutions. These questions are not meant to constitute a definitive list of concerns to be addressed; based on your expertise, please share any additional requirements, critical issues, and decisions that should be addressed at this time.

1. How are incoming resources received, staged, and integrated in the response?
2. Does your institution have a designated (emergency vehicle and resource) staging area? If not, where would you establish a staging area?
3. Is there a designated Staging Area Manager?
4. Are emergency vehicle ingress and egress routes identified?
5. What is the policy for inmate transport coverage? (1 officer per inmate/ambulance?) During a major disturbance and/or MCI, does this affect the prison's ability to respond?
6. Does the institution have an established helipad? Or designated landing area?
7. How do you communicate with life-flight?
8. How do you transport patients to helipad?
9. Do officers travel on life-flight?
10. What is the travel time or turn-around time for a life-flight?
11. How are patients tracked?
12. Does the institution maintain a cache of medical supplies and backboards sufficient to handle an MCI event?
13. How does the institution receive on-site news media? Is there a designated media staging area?
14. Where does the PIO hold press conferences?
15. Does the PIO publish a briefing schedule?

Module 4: Patient Triage, Extraction, and Other Issues

Medical staff had initially established a triage area on the yard expecting the incident to quickly subside, however the level of violence and number of injured have caused them to reconsider. Their initial estimate is six inmates will require hospitalization; another 10 will need immediate transport and treatment; 15 more are being considered for transport. The injuries of approximately 50 inmates are minor enough to be treated on-site, but resources are stretched thin and they cannot be seen right away. Injuries generally range from smoke inhalation to blunt-force trauma and cuts. It is now confirmed that there are 2 inmate fatalities, and third is expected to expire in the triage area.

The medical clinic was not designed for a patient surge of this magnitude. Medical staff are understaffed, overwhelmed, and uncomfortable treating inmates this close to the crisis.

Questions

Based on the information provided in Module 4, please answer the following questions. For any negative responses, discuss potential solutions. These questions are not meant to constitute a definitive list of concerns to be addressed; based on your expertise, please share any additional requirements, critical issues, and decisions that should be addressed at this time.

Triage:

1. What triage method is used (SALT, DIME, etc.)? Is this department-wide policy?
2. Is there a designated triage area, or policy for determining triage location if clinic is not feasible?
3. Does this conflict with vehicle staging or prison security procedures?
4. Can outside responders come inside the secured perimeter to assist with triage?

Extraction:

5. How are non-ambulatory patients moved from areas inaccessible to emergency vehicles?

Fatality Management:

6. How are fatalities handled?
7. When is the Coroner contacted? Who contacts the Coroner?

Communications:

8. How are frequencies and radio communications managed?
9. Are you able to communicate by radio with local responders?
10. Are there known communications gaps or “dead zones” in your facility?

Joint Training and Planning:

11. Do you train / plan jointly with local response partners/agencies?
12. Are these other agencies familiar with your procedures for facility access and response?
13. Are CDCR/institution staff familiar with their own plans?
14. Are you familiar with local resources that are available to your facility? Specifically, law enforcement and medical (related to MCI)

Medical Surge:

15. Does the institution have a plan to handle the post-incident medical surge?
16. Is there a method of credentialing outside medical staff?

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